

Zoological Record

Vol. 88, Sect. 16, 1951

AMPHIBIA AND REPTILIA

COMPILED BY

J. C. BATTERSBY (Recent) and

W. E. SWINTON, Ph.D. (Fossil)

PRINTED FOR THE ZOOLOGICAL SOCIETY OF LONDON
SOLD AT THEIR HOUSE IN REGENT'S PARK
LONDON, N.W.1.

PRICE SEVEN SHILLINGS AND SIXPENCE

September, 1953

SEPARATE SECTIONS OF THE ZOOLOGICAL RECORD

In addition to the complete bound volume, the separate Sections may be obtained singly, bound in printed paper covers.

The following are the Sections and their prices, viz. :—

				<i>s.</i>	<i>d.</i>
1. Comprehensive Zoology	...	...	...	2	6
2. Protozoa	...	...	...	7	6
3. Porifera	...	...	...	2	0
4. Coelenterata	...	...	...	4	0
5. Echinoderma	...	...	...	2	6
6. Vermes	...	...	...	10	0
7. Brachiopoda	...	...	...	3	0
8. Bryozoa	...	...	...	2	0
9. Mollusca	...	...	...	10	0
10. Crustacea	...	...	...	5	0
11. Trilobita	...	...	...	3	0
12. Arachnida	...	...	...	7	6
*13. Insecta	...	...	...	30	0
14. Protochordata	...	...	...	2	0
15. Pisces	...	...	...	7	0
16. Amphibia and Reptilia...	...	...	...	7	6
17. Aves...	...	...	...	7	6
18. Mammalia	...	...	...	7	6
19. List of New Genera and Subgenera	...	...	...	3	0

* Obtainable only from the Commonwealth Institute of Entomology, 41, Queen's Gate, London, S.W.7.

16. AMPHIBIA AND REPTILIA

COMPILED BY

J. C. BATTERSBY (RECENT)

AND W. E. SWINTON, PH.D. (FOSSIL)

CONTENTS

	PAGE
I. TITLES	2
II. SUBJECT INDEX :—	
General	59
Structure	60
Physiology	63
Reproduction and Sex	68
Development	69
Evolution and Genetics	71
Ecology and Habits	72
Venoms	75
Geographical Distribution	76
Paleontology and Geological Distribution	79
III. SYSTEMATIC INDEX :—	
Amphibia	80
Reptilia	104
Ichnites	138

I.—TITLES

- 1.—**Anon.** Vitamin needs of Clawed Toads. *Aquarist* **16** 1951 p. 70 5 figs.
- 2.—**Anon.** Poisonous snakes; regulations on importation into the United States of America. *Copeia* **1951** p. 111.
- 3.—**Anon.** The chromatic chameleon. *Discovery* **12** 4 1951 pp. 104–107 2 figs.
- 4.—**Anon.** The World's largest snake farm. *Discovery* **12** 12 1951 pp. 383–385 8 figs.
- 5.—**Anon.** Snakes battle cancer. *Science News Letter* **59** 11 1951 p. 166 [Not seen].
- 6.—**Anon.** Crocodile hunting stepped up in Uganda. *Geogr. School Bull. Nat. Geogr. Soc.*, **28** (22) 1950 unpagd. [Not seen].
- 7.—**Abel, E.** Über das Geruchsvermögen der Eidechsen. *Österr. Zool. Z.* **3** 1951 pp. 83–125 1 fig.
- 8.—**Acharji, M. N. & Kripalani, M. B.** Contributions to the fauna of the Manipur State, Assam. *Rec. Indian Mus.* **48** 2 1951 pp. 93–100.
- 9.—**Adams, A. E. & Craig, M.** The effects of antithyroid compounds on the adult lizard, *Anolis carolinensis*. *J. exp. Zool.* **117** 1951 pp. 287–315 7 figs.
- 10.—**Agersborg, H. P. K.** The distribution of the cerebrospinal fluid in the Louisiana bull-frog (*Rana catesbeiana* [?]) [Abstract]. *Anat. Rec.* **111** 1951 pp. 483–484.
- 11.—**Aguayo, C. G.** Bosquejo historico de la zoologia Cubana. *Bol. Hist. nat. Soc. Felipe Poey*, 1 1950 pp. 3–31. [Not seen].
- 12.—**Aguayo, C. G.** Notas sobre algunos reptiles hallados en residuarios indigenas. *Bol. Hist. nat. Soc. Habana* **2** 7 1951 pp. 139–140.
- 13.—**Airan, J. W. & Ghatge, N. D.** Distribution of nitrogen in the flesh of Monitor lizard (Family: Varanidae; Order: Squamata; Genus *Varanus*). *Indian J. Med. Res.* **30** 4 1950 pp. 417–418. [Not seen].
- 14.—**Allen, B. M., Schjeide, O. A. & Hochwald, L. B.** Relation of low temperature to X-ray injury of hematopoietic tissue of tadpoles. *Proc. Soc. exp. Biol., N.Y.* **73** 1 1950 pp. 60–62.
- 15.—**Allen, E. R. & Neill, W. T.** Keep them alive. *Ross Allen Rept. Inst. Spec. Publ. No. 1* 1950 pp. 1–24 figs.
- Allen, W. R.** see Edney, J. M.
- Allende, J. L. C. de,** see Orias, O.
- 16.—**Aller, A. R.** Hydrophily in *Charina*. *Herpetologica* **7** 2 1951 p. 84.
- 17.—**Aloyo, D. P.** Especies herpetologicas halladas en Santiago de Cuba. *Bol. Hist. nat. Soc. Habana* **2** 7 1951 pp. 106–110.
- 18.—**Altena, C. O. van R.** Systematic catalogue of the palaontological collection Seventh supplement. Vertebrata from the Pleistocene Tegelen Clay, Netherlands. *Arch. Mus. Teyler* (3) **10** 3 1951 pp. 182–208 4 pls.
- 19.—**Altland, P. D.** Observations on the structure of the reproductive organs of the box turtle. *J. Morph.* **89** 1951 pp. 599–621 16 figs.
- 20.—**Altland, P. D. & Bowen, W. J.** Method for determining hemoglobin content of turtle blood. [Abstract]. *Anat. Rec.* **111** 1951 pp. 447–448.
- 21.—**Altland, P. D., Highman, B. & Wood, B.** Some effects of X-irradiation on turtles. *J. exp. Zool.* **118** 1951 pp. 1–19 13 figs. 2 tabs.
- 22.—**Alverdes, F.** Die Rheotaxis der Anurenlarven. *Zool. Anz.* **147** 1951 pp. 219–225 1 fig. 1 tab.
- Amano, H.,** see Ichikawa, M.
- 23.—**Amaral, Af. do.** Lacertilios do Pará. *Bol. Mus. Paraense Emilio Goeldi* **10** 1949 pp. 107–114. [Not seen].
- 24.—**Amaral, Af. do.** Ofidios do Pará. *Bol. Mus. Paraense Emilio Goeldi* **10** 1949 pp. 149–159. [Not seen].
- 25.—**Amaral, Af. do.** Serpentes gigantes. *Bol. Mus. Paraense Emilio Goeldi* **10** 1949 pp. 211–237. [Not seen].

- 26.—**Ambrus, J. L. & C. M. & Harrison, W. E.** Prevention of *Proteus hydrophilus* infection (Red leg disease) in frog colonies. *Amer. J. Pharm.* **123** 4 1951 p. 129. [Not seen].
- 27.—**Amrein, Y. U. & Amrein, M. B.** The number of young found in the Island Night Lizard. *Copeia* **1951** p. 180.
- 28.—**Ancel, P. & Vintemberger, P.** Sur l'orientation du plan de symétrie bilatérale par des centrifugations, de direction perpendiculaire à l'axe ovulaire, d'oeufs activés ou vierges de *Rana fusca*. *C.R. Soc. Biol., Paris* **145** 5-6 1951 pp. 324-326.
- 29.—**Anderson, P. K.** Albinism in tadpoles of *Microhyla carolinensis*. *Herpetologica* **7** 2 1951 p. 56.
- 30.—**Andersson, B. & Zotterman, Y.** The water taste in the frog. *Acta Physiol. Scand. Stockholm* **20** 1 1950 pp. 95-100 figs.
- 31.—**Andres, G.** Untersuchungen an Chimären von *Triton* und *Bombinator*. II. Teil. Die funktionelle Einordnung von ordnungsfremden Labyrinth-Akustikus-Systemen. *Z. vergl. Physiol., Berlin* **32** 1-2 1950 pp. 1-28 6 figs. tables.
- Andrews, J. S.,** see Singer, M.
- 32.—[**Andrushko, A. M.**]. Amphibians and Reptilia in highland conditions of Alayov valley (Pamir). *Zool. Journ., Moscow* **30** 3 1951 pp. 274-278. [In Russian].
- 33.—**Angerer, C. A. & H. H.** Weigh variations of adrenalectomized frog muscles in different concentrations of Ringer's solutions. *Proc. Soc. exp. Biol., N.Y.* **73** 2 1950 pp. 265-268.
- 34.—**Anthony, J. & Guibé, J.** *Casarea*, forme de passage entre les Boidés et les serpents protéroglyphes. *C.R. Acad. Sci., Paris* **233** 2 1951 pp. 203-204.
- 35.—**Anthony, J. & Serra, R. G.** Contribuição ao conhecimento anatômico do sinus orbitalis em *Eumeces murinus* L. *Anais. Fac. Farm. e Odont. Univ. Sao Paulo* **7** 1949 pp. 85-87 illus. [Not seen].
- 36.—**Anthony, J. & Serra, R. G.** Novos casos de fraturas consolidadas em posição viciosa em serpentes sul Americanas. *Rev. brasil. Biol.* **11** 1 1951 pp. 101-103 4 figs.
- 37.—**Anthony, J. & Serra, R. G.** Particularités anatomiques de l'appareil de la morsure chez "*Constrictor constrictor*" et chez "*Epicrates crassus*" (Boidae). *Rev. brasil. Biol.* **11** 2 1951 pp. 203-210 14 figs.
- 38.—**Antonino, C.** Ulteriori ricerche sul carattere duplice ureotelico e uricotelico del metabolismo azotato della *Testudo graeca*. *Boll. Soc. ital. Biol. sper.* **25** 11-12 1949 pp. 1503-1505.
- 39.—**Antonino, C.** L'ureagenesi e l'uricosintesi nella serie dei vertebrati. *Boll. Soc. ital. Biol. sper.* **26** 4 1950 pp. 391-453 8 figs. tables.
- 40.—**Arcangeli, A.** Teoria sulla origine del gonocorismo dell'ermafroditismo primario e sulla origine del gonocorismo della partenogenesi, dell'ermafroditismo secondario e della intersessualità. *Boll. Ist. Mus. Zool. Torino* **2** 1950 pp. 237-557.
- Argan-Chiesa, M.,** see Sacerdote, M.
- 41.—**Argenti, P. P. & Rose, H. J.** The folk-lore of Chios. *Cambridge* 1949 2 vols.
- 42.—**Ariens, K. J.** Experiments on the function of the paraphysis cerebri in *Amblystoma mexicanum* Communications presentées aux 3 mes Journées cyto-embryol. Belgo-Neerland. Ghent 1949 pp. 46-49. From *Anat. Anthropol. Embryol. & Histol. Sect. 1 of Excerpta Medica* 1951 **V** 1. [Not seen].
- 43.—**Armstrong, J. A.** An experimental study of the visual pathways in a snake (*Natrix natrix*). *J. Anat., London* **85** 1951 pp. 275-288 3 pls. 2 figs.
- Arnoult, H.,** see Ceccaldi, J.
- 44.—**Arny, S. A.** A survey of the reptiles and amphibians of the Delta National Wildlife Refuge. *Absts. Theses Tulane Univ.* 1949 pp. 97-98. [Not seen].
- 45.—**Asayama, S.** The developmental potencies of the intermediate mesoderm of *Triturus pyrrhogaster* when transplanted into orthotopic or heterotopic site in the body wall of another embryo. *J. Inst. Polytech. Osaka Univ.* **1D** 1950 pp. 13-31 4 pls. 1 fig tables.

Ash, F., see Matthews, S. A.

46.—**Astre, G.** Faune Magdalénienne et Azilienne de Rochereil (Dordogne). Bull. Soc. Hist. Nat. Toulouse **85** 3-4 1951 pp. 151-171.

Averbakh, M., see Nasonov, D.

47.—**Axtell, R. W.** An additional specimen of *Lampropeltis blairi* from Texas. Copeia **1951** p. 313 1 pl. 1 tab.

48.—**Azevedo, M. P. & Martirani, I.** Ação proteolítica do veneno da *Bothrops jararaca* (Wied.). I. Ação sobre hemoglobina e caseína. [English summary]. Mem. Inst. Butantan **22** 1950 pp. 31-46.

Azevedo, M. P., see Martirani, I.

49.—**Babbitt, L. H.** Courtship and mating of *Eumeces egregius*. Copeia **1951** p. 79.

50.—**Babbitt, L. H. & Babbitt, C. H.** A herpetological study of burned-over areas in Dade County, Florida. Copeia **1951** p. 79.

51.—**Baffoni, G. M.** L'andamento dell'ipertrofia reattiva in alcuni aspetti della cromatolisi della cellula nervosa. R.C. Accad. Lincei (8) **10** 4 1951 pp. 319-325 1 fig.

52.—**Baffoni, G. M. & Catta, G.** The cytomorphosis of the Mauthner's cell in *Hyla arborea savignyi* during normal development and experimentally anticipated metamorphosis. Riv. Biol. N.S. **43** 3 1951 pp. 395-397 2 pls. 2 figs.

53.—**Bailey, J. R.** Adaptive radiation in the snakes of the tribe Pseudoboini. [Abstract]. J. Elisha Mitchell sci. Soc. **67** 2 1951 pp. 183-184.

54.—**Baird, D.** Revision of Pennsylvanian and Permian footprints *Limnopus*, *Allopus* and *Baropus*. Bull. Geol. Soc. Amer. **61** 12 1950 p. 1442. [Abstract].

55.—**Baird, I. L.** An anatomical study of certain salamanders of the genus *Pseudoeurycea*. Univ. Kansas Sci. Bull. **34** 1 1951 pp. 221-265 3 pls.

56.—**Baker, A. S.** A study of the expression of the burnsi gene in adult *Rana pipiens*. J. exp. Zool. **116** 1951 pp. 191-229 11 figs. 6 tabs.

57.—**Baker, A. S.** A tyrosinase inhibitor from the skin of *Rana pipiens*. [Abstract]. Anat. Rec. **111** 1951 p. 449.

58.—**Baker, C. L. & Stoudemayer, M. B.** The influence of thyroxine, epinephrine, and X-rays on metamorphosis of some neotenic urodeles. J. Tenn. Acad. Sci. **26** 1 1951 pp. 32-41.

59.—**Balinsky, B. I.** On the eye cup-lens correlation in some South African amphibians. Experientia **7** 5 1951 pp. 180-181 2 figs.

60.—**Ballmer, G. W.** The comparative histology of the enteron of some American turtles. Pap. Mich. Acad. Sci. **35** 1951 pp. 91-99 5 pls.

61.—**Baltzer, F. & Schönmann, W.** Ueber die Letalität des Bastards *Triton palmatus* ♀ × *Salamandra atra* ♂. Rev. suisse Zool. **58** 1951 pp. 495-502 3 figs.

Baltzer, F., see Chen, P. S.

62.—**Bandt, H.-J. & Freytag, G. E.** Die tödlichen pH-Werte für Axolotl (*Siredon mexicanum*). Mitt. Mus. Naturk. Magdeb. **2** 12 1950 pp. 129-132.

63.—**Bannikov, A. G.** Age distribution of population and its dynamics in *Bombina bombina* L. C.R. Acad. Sci. URSS **70** 1 1950 pp. 101-103. [Not seen].

64.—**Barach, J. P.** The value of the skin secretions of the spotted salamander. Herpetologica **7** 2 1951 p. 58.

65.—**Barbieri, F. D.** Observaciones sobre los cromosomas y espermatozoides en algunos batracios del genero *Leptodactylus*. Acta. Zool. lilloana **9** 1950 pp. 455-462 1 pl.

66.—**Baron, J.** L'équilibre chez les vertébrés. Année biol. (3) **27** 5 1951 pp. 345-358.

67.—**Barooa, J. N.** Breeding of the Green Pit Viper (*Trimeresurus gramineus*). J. Bombay Nat. Hist. Soc. **50** 1951 p. 414.

68.—**Barrington, E. J. W.** The specific granules of the pancreatic islet tissue of the frog (*Rana temporaria*). Quart. J. micr. Sci. **92** 1951 pp. 205-220 3 figs.

- 69.—**Barrio**, A. Contribución al estudio de la etología y reproducción del batracio *Pseudopaludicola falcipes*. Rev. Argentina Zoogeogr. **5** 1945 pp. 37–43 figs. [Not seen].
- 70.—**Barron**, D. H. Genetic neurology and the behaviour problem. Union Internat. Sci. biol. Paris Sci. B (Colloques) No. 6 1950 pp. 223–231.
- 71.—**Barth**, L. G. & **Barth**, L. J. The relation of adenosine triphosphate to yolk utilization in the frog's egg. J. exp. Zool. **116** 1951 pp. 99–121. 1 fig.
- 72.—**Barth**, L. G. & **Jaeger**, L. The role of adenosine-tri-phosphate in phosphate transfer from yolk to other proteins in the developing frog egg. I. General properties of the transfer system as a whole. II. Separation of the system into component enzymes, phosphate donor and phosphate acceptor. J. cell. comp. Physiol., Philad. **35** 3 1950 pp. 413–459 5 figs. tables.
- 73.—**Basoğlu**, M. Experiments on the composition of the alveolar air in *Testudo graeca* and *Clemmys rivulata*. Rev. Fac. Sci. Univ. Istanbul. **15B** 2 1950 pp. 89–94.
- 74.—**Battaglia**, B. & **Gualà**, L. Sulla degenerazione di cellule germinali nel corso della spermatogenesi del Tritone crestato. Boll. Zool. **18** 1951 pp. 57–63.
- 75.—**Battersby**, J. C. Description of a new species of snake *Prosymna pitmani*, sp. n., from Tanganyika Territory and notes on the genus. Ann. Mag. nat. Hist. (12) **4** 1951 pp. 828–829.
- 76.—**Baudrimont**, A. Couleuvres et source thermale de St. Sauveur. Procès-verb. Soc. Linn. Bordeaux **93** 1 1943 (1951) pp. 6–12. [Not seen].
- 77.—**Bausenhardt**, D. Vergleichend-anatomische Untersuchungen über die Encoche d'ossification. Verh. anat. Ges. Jena **97** (1950) 1951 pp. 223–229, 9 figs.
- 78.—**Bautzmann**, H. Über einige neuere Beiträge zur Entwicklungsphysiologie der frühen Amphibienentwicklung. Verh. Anat. Ges. Jena **97** (1950) 1951 pp. 6–38 28 figs.
- 79.—**Baylis**, H. A. The parasitic worms of British reptiles and amphibia. Smith, M. A. The British Amphibians and Reptiles, London (Collins) 1951 pp. 267–273.
- 80.—**Beams**, H. W. The effects of ultracentrifugal force on the cell with special reference to division. Ann. N.Y. Acad. Sci. **51** 1951 pp. 1349–1364.
- 81.—**Beatty**, R. A. Effects of chloracetophenone and di-isopropyl fluorophosphonate on amphibian eggs. Proc. Roy. Soc. **138B** 893 1951 pp. 575–599 1 pl. 5 figs. tables.
- Beetschen**, J. C. see Gallien, L.
- 82.—**Bellairs**, A. d' A. & **Underwood**, G. The origin of snakes. Biol. Rev. **26** 1951 pp. 193–237 9 figs.
- 83.—**Bellairs**, R. Development of early reptile embryos *in vitro*. Nature, London **167** 1951 pp. 687–688.
- 84.—**Bennett**, H., **Brown**, E., **Coomes**, T. J., **Morton**, D. & **Raymond**, W. D. Crocodile oil from Tanganyika. Colon. Pl. Anim. Prod. **1** 4 1950 pp. 315–318.
- Berg**, G. G., see Karczmar, A. G.
- 85.—**Berg**, L. S. Natural regions of the U.S.S.R. New York, MacMillan Co. 1950 XXXI 436 pp. 81 fig. 23 maps. [Not seen].
- Berg**, W. E., see Eakin, R. M.
- 86.—**Bergman**, R. A. M. The anatomy of *Homalopsis buccata*. Proc. Acad. Sci. Amst. **54C** 5 1951 pp. 511–524 6 figs. tables.
- 87.—**Bernasconi**, A. F. Über den Ossifikationsmodus bei *Xenopus laevis* Daud. Denskschr. Schweiz. naturf. Ges. **79** 2 1951 pp. 189–252 2 pls. 42 figs.
- Bernini**, G., see Capraro, V.
- 88.—**Bertin**, L. La vie des animaux, Paris. (Librairie Larousse) **1** 1949 pp. 459–493 2 1950 pp. 1–66.
- 89.—**Bevacqua**, R. & **Formentano**, V. Prova di Galli-Mainini su *Rana esculenta* L. e confronto dei risultati con la prova di Friedman. Bol. Soc. ital. Biol. sper. **26** 1 1950 pp. 54–55.
- Bevacqua**, R., see Cresseri, A.

90.—Bianchi, G. Comportamento dei volumi ipofisari in girini di *Rana* trattati con desossicorticosterone. Atti Ist. veneto Cl. Sci. mat. Nat. **109** 1951 pp. 183–188 3 figs.

91.—Bimmer, E. Metrische Untersuchungen über die Entwicklung der Nebenniere und der ihr beschriebenen Organe bei eidechsen metrical. Anat. Anz. **97** 16–17 1950 pp. 276–311. [Not seen].

92.—Birkenmeier, E. Beobachtungen über das Paarungsverhalten von *Psammotriton alpinus* Linné (Rept.). Zool. Anz. **147** 1951 pp. 262–265.

93.—Birukow, G. Vergleichende Untersuchungen über das Helligkeits- und Farbensin bei Amphibien. Z. vergl. Physiol., Berlin **32** 1950 pp. 348–382 10 figs. tables.

94.—Birukow, G. Langsame periodische Vorgänge in Gleichgewichtszentren bei Amphibien. Naturwissenschaften **38** 1951 pp. 212–213 3 figs.

95.—Blair, A. P. Winter activity in Oklahoma frogs. Copeia **1951** p. 178.

96.—Blair, A. P. Note on Oklahoma salamanders. Copeia **1951** p. 178.

97.—Blair, A. P. Note on the herpetology of the Elk Mountains, Colorado. Copeia **1951** pp. 239–240.

98.—Blair, W. F. Interbreeding of natural populations of vertebrates. Amer. Nat. **85** 1951 pp. 9–30.

99.—Blaisot, S. & J. Recherches sur la métamorphose du crapaud commun. (*Bufo vulgaris* Laur.). Physiol. comp. **2** 1951 pp. 210–223 6 figs. 5 tabs.

Blatt, W., see Morrison, P. R.

100.—Bleakney, S. A new snake record for Nova Scotia [*Thamnophis s. sauritus*]. Canad. Fld. Nat. **65** 3 1951 pp. 118–119.

Blodorn, H. K., see Schopf, C.

101.—Bloomberg, R. Strange reptiles of the Galápagos. Nat. Hist., N.Y. **60** 1951 pp. 234–238 11 figs.

102.—Boelaert, R. Sur la physiologie de la respiration des Lacertiens. Arch. Internat. Physiol. **51** 4 1941 pp. 379–437 illust. [Not seen].

103.—Boelaert, R. Sur la physiologie de la respiration de l'*Alligator mississippiensis*. Arch. Internat. Physiol. **52** 1 1942 pp. 57–72 illust. [Not seen].

104.—Boell, E. J. & Shen, S. C. Localization of cholinesterase in the optic lobe of *Rana pipiens* [Abstract]. Anat. Rec. **111** 1951 p. 510.

105.—Boell, E. J. & Shen, S. C. Appearance and development of cholinesterase in the amphibian mid-brain. [Abstract]. Science **114** 1951 p. 477.

106.—Boer, J. de. Het physiologische experiment onder tropische condities. Indonesian J. nat. Sci. **107** 1–3 1951 pp. 25–32 5 figs. tables. [English summary].

107.—Boettger, C. R. Der Bergmolch in der Lüneburger Heide. Beitr. Naturk. Niedersachs. **3** 2 1950 pp. 39–41.

108.—Bohnsack, K. K. Temperature data on the terrestrial hibernation of the Greenfrog, *Rana clamitans*. Copeia **1951** pp. 236–239 1 tab.

109.—Bokermann, W. C. A. Sinopse das espécies Brasileiras do gênero *Cyclorhamphus* Tschudi, 1838 (Amphibia, Salientia-Leptodactylidae). Arch. Mus. nac. Rio de J. **42** 1951 pp. 77–106 figs.

Bollman, J. L., see Hogben, C. A. M.

110.—Bonarelli, G. Dinosaurio fossile del Sahara Cirenaico. Riv. Biol. Colon. **8** 1947 pp. 23–33 1 fig.

111.—Bondi, C. Ricerche sperimentali sulla catalasi (Ossiforo di Spirito) (Influenza dell'alterazione delle strutture morfologiche sulla catalasi e sui processi respiratori). [English summary]. Riv. Biol. N.S. **43** 3 1951 pp. 331–348.

112.—Boomgaard, W. H. Der Braunjura im Starzeltal. Neues Jahrb. Mineral. usw. Monats. Abt. B **1945–1949** (9–12) pp. 319–333 illus. 1948 [1949].

113.—Boonstra, L. D. Kurze Notiz über den Schädel der Dinoccephalen-Gattung *Keratocephalus* F. v. Huene. Neues Jb. Geol. Mh. **11** 1951 pp. 341–343 text-figs. 1–2.

114.—Boonstra, L. D. Bemerkung zu Obigen von F. v. Huene, Tübingen. Neues Jb. Geol. Mh. **11** 1951 pp. 343-4 text-fig. 3.

115.—Boring, A. M., Chang Lan-Fen & Chang Wei-Hsi. Autotomy and regeneration in the tails of lizards. Peking Nat. Hist. Bull. **17** 2 1948 pp. 85-107 3 pls.

116.—Bott, P. A. Concentration of potassium in glomerular fluid of the *Necturus*. Fed. Proc. **10** 11 1951 p. 165 (Abstract). [Not seen].

117.—Bounoure, L. Sur le développement sexuel des glandes génitales de la grenouille en l'absence de gonocytes. Arch. Anat. Micr. Morph. exp. **39** 1951 pp. 247-256 13 figs.

Bowen, W. J., see Atland, P. D.

Bozer, J. M., see Frieden, E. H.

118.—Brachet, J. Le rôle des nucléoprotéides dans la fécondation, la parthénogénèse et le développement embryonnaire chez les amphibiens. Union Internat. Sci. biol. Paris Sér. B (Colloques) No. 3 1949 pp. 54-70.

119.—Brachet, J. L'action de divers métabolites (glucose, acides aminés, vitamines, etc.) sur le développement des oeufs de grenouille normaux ou soumis à un choc thermique. Bull. Soc. Chim. biol., Paris **32** 7-8 1950 pp. 443-450.

Brachet, J., see Rapkine, L.

120.—Bradley, W. O. The effects of certain antithyroid drugs on the uptake of radio-active iodine by the frog thyroid. Biol. Bull. Wood's Hole **101** 1951 pp. 62-70 4 figs.

121.—Bragdon, D. E. The non-essentiality of the corpora lutea for the maintenance of gestation in certain live-bearing snakes. J. exp. Zool. **118** 1951 pp. 419-435 2 tabs.

122.—Bragg, A. N. Puzzles in the life history of *Scaphiopus hurterii* Strecker. Proc. Okla. Acad. Sci. **25** 1945 p. 27.

123.—Bragg, A. N. Some new County records of Salientia and a correction in the list from Oklahoma. Proc. Okla. Acad. Sci. **26** 1946 pp. 16-18.

124.—Bragg, A. N. Aggregational phenomena in *Scaphiopus hurterii* tadpoles. [Abstract]. Proc. Okla. Acad. Sci. **26** 1946 p. 19.

125.—Bragg, A. N. Observations on *Hyla versicolor* in Oklahoma. Proc. Okla. Acad. Sci. **28** 1948 pp. 31-35 tables.

126.—Bragg, A. N. An observation showing the biological necessity for size selection of food objects by young toads. Proc. Okla. Acad. Sci. **28** 1948 pp. 35-36.

127.—Bragg, A. N. The canebrake rattler and Oklahoma. Proc. Okla. Acad. Sci. **28** 1948 pp. 36-37.

128.—Bragg, A. N. A sexual difference in dermal secretion in spadefoot toads. Proc. Okla. Acad. Sci. **29** 1948 pp. 11-12.

129.—Bragg, A. N. Mass movement at metamorphosis in the Savannah spadefoot, *Scaphiopus hurterii* Strecker. Proc. Okla. Acad. Sci. **31** 1951 pp. 26-27. [Not seen].

130.—Bragg, A. N. Data on size range in adults of *Bufo w. woodhoussi* Girard. Proc. Okla. Acad. Sci. **31** 1951 pp. 39-40. [Not seen].

131.—Bragg, A. N. Further notes on range extensions of Salientia. Proc. Okla. Acad. Sci. **31** 1951 pp. 42-44. [Not seen].

132.—Bragg, A. N. Field preservation of amphibian eggs and larvae. Turtlox News **27** 12 1949 pp. 262-263. [Not seen].

133.—Bragg, A. N. An apparatus for collecting small aquatic organisms. Turtlox News **29** 3 1951 pp. 74-75. [Not seen].

134.—Bragg, A. N. and others. Researches on the amphibia of Oklahoma. Univ. Oklahoma Press 1950 134 pp. 5 pls. tables. [Not seen].

135.—Bragg, A. N. & Dundee, H. Salientian collections in Oklahoma, 1948. Proc. Okla. Acad. Sci. **29** 1948 pp. 24-25.

136.—Bragg, A. N. & Hudson, W. F. New county records of Salientia and a summary of known distribution of Caudata in Oklahoma. Gr. Basin Nat. **11** 3-4 1951 pp. 87-90.

- 137.—Bragg, A. N. & Sanders, O.** A new subspecies of the *Bufo woodhousii* group of toads (Salientia : Bufonidae) [*B. w. velatus* subsp. nov.]. Wasmann J. Biol. **9** 1951 pp. 363–378 1 pl.
- Bragg, A. N.**, see Dundee, H.
- 138.—Brattstrom, B. H.** The number of young *Xantusia*. Herpetologica **7** 3 1951 pp. 143–144.
- 139.—Brattstrom, B. H.** Two additions to the herpetofauna of Baja California, Mexico. Herpetologica **7** 1951 p. 196.
- 140.—Brattstrom, B. H. & Schwenkmeyer, R. C.** Notes on the natural history of the worm snake *Leptotyphlops humilis*. Herpetologica **7** 1951 pp. 193–196 2 figs.
- Brazda, F. G.**, see Coulson, R. A.
- 141.—Brazenor, C. W.** On the Victorian species of tuberculated *Diplodactylus*. Mem. Nat. Mus. Melb. No. 17 1951 pp. 215–222.
- Brazil, V.**, see Rincones, R. G.
- 142.—Brelsford, V.** Unusual events in animal life, VIII. [Crocodiles]. African Wild Life **5** 1951 pp. 144–145 figs.
- 143.—Bretscher, A. & Tschumi, P.** Gestufte Reduktion von chemisch behandelten *Xenopus*-Beinen. Rev. suisse Zool. **58** 1951 pp. 391–398 1 fig. 1 tab.
- 144.—Breukelman, J. & Clarke, R. F.** A revised list of amphibia and reptiles of Chase and Lyon counties, Kansas. Trans. Kans. Acad. Sci. **54** 1951 pp. 542–545.
- Brickson, W. M.**, see Mann, R.
- 145.—Brien, P.** Notice sur Louis Dollo. Annu. Acad. Roy. Belg. **117** 1951 pp. 69–138 portrait.
- 146.—Briggs, R., Green, E. U. & King, T. J.** An investigation of the capacity for cleavage and differentiation in *Rana pipiens* eggs lacking "functional" chromosomes. J. exp. Zool. **116** 1951 pp. 455–499. 17 figs.
- Brimley, C. S.**, see Davis, H. T.
- 147.—Brink, A. S.** On the genus *Lystrosaurus* Cope. Trans. Roy. Soc. S. Africa **33** 1 1951 pp. 107–120 illus.
- Broker, R. S.**, see Nadkarni, S. M.
- 148.—Brondsted, H. V. & Meyer, H.** Does a correlation exist between the egg axis and the attachment in the ovary of *Rana temporaria*? Vidensk. Medd. naturh. Foren. Kbh. **112** 1950 pp. 253–258 4 figs.
- 149.—Brongersma, L. D.** Some notes upon the anatomy of *Tropidophis* and *Trachyboa* (Serpentes). Zool. Meded. **31** 1951 pp. 107–124 8 figs. 1 tab.
- 150.—Brongersma, L. D.** Some remarks on the pulmonary artery in snakes with two lungs. Zool. Verh. No. 14 1951 pp. 1–36 9 pls.
- 151.—Brongersma, L. D.** De arteria pulmonalis bij Boidae en bij *Xenopeltis* (Serpentes). Ned. Tijdschr. Geneesk. **95** 34 1951 pp. 2490–2491.
- 152.—Brongersma, L. D. & Helle, W.** Notes on Indo-Australian snakes, I. Proc. Kon. ned. Akad. Wet. Amst. (C) **54** 1 1951 pp. 1–8 1 fig.
- 153.—Brown, B. C.** A range extension of the southern prairie skink in Texas. Herpetologica **7** 2 1951 p. 72.
- 153a.—Brown, B. C.** *Diemictylus viridescens louisianensis* in North-Eastern Texas. Herpetologica **7** 2 1951 p. 64.
- 154.—Brown, B. C.** *Eumeces anthracinus* in Texas. Herpetologica **7** 2 1951 p. 76.
- 155.—Brown, B. C.** The Texan hooded snake in the Lower Rio Grande Valley of Texas. Herpetologica **7** 1951 p. 175.
- Brown, E.**, see Bennett, H.
- 156.—Brownell, L. S.** Shell backs. 12 pictures of turtles. Nat. Mag. **44** 1951 pp. 197–200. [Not seen].
- 157.—Bruce, H. M. & Parkes, A. S.** Rickets and osteoporosis in *Xenopus laevis*. J. Endocrin. **7** 1 1950 pp. 64–81 pls. 1–7. [Not seen].
- 158.—Brumwell, M. J.** An ecological survey of the Fort Leavenworth Military Reservation. Amer. Midl. Nat. **45** 1 1951 pp. 187–231 6 figs.
- 159.—Brünner, G.** Zeckenbefall einer Landschildkröte. Aquar. Terrar. Z., Stuttgart **4** 1951 p. 136–137 1 fig.

160.—Brünner, G. Die "Kleine Teufelhöhle" bei Pottenstein (Oberfranken). Ein Faunenprofil vom Mindel-Riss-Interglazial bis zum Spät-magdalénien. Abh. bayer. Akad. Wiss. Math.-nat. Kl. N.F. No. 60 1951 pp. 1-46 12 figs. tables.

161.—Brunson, R. B. & Demaree, Jr., H. A. The herpetology of the Mission Mountains, Montana. *Copeia* 1951 pp. 306-308.

162.—Brunst, V. V. & Figge, F. H. J. The development of secondary tails in young axolotls after local X-ray irradiation. *J. Morph.* 89 1951 pp. 111-133 23 figs.

163.—Brunst, V. V., Shermetieva-Brunst, E. A. & Figge, F. H. J. Investigation of the disappearance of teeth after local X-ray irradiation of jaws in the young Axolotl. [Abstract]. *Anat. Rec.* 111 1951 p. 498.

164.—Bucci, G. Le variazioni quantitative dell'acido ascorbico durante la metamorfosi di *Bufo vulgaris*. *Riv. Biol. N.S.* 43 4 1951 pp. 529-543 figs. [English summary].

165.—Buchthal, F. The rheology of the cross striated muscle fibre and its minute structural interpretation. *Pubbl. Staz. Zool. Napoli* 23 Suppl. 1951 pp. 115-146 21 figs. 1 pl.

166.—Buide, M. S. Observation on habits of the Cuban Iguana [*Cyclura macleayi*]. *Herpetologica* 7 3 1951 p. 124.

167.—Bullough, W. S. Vertebrate sexual cycles, London (Methuen & Co.) 1951 pp. viii + 117 12 text figs.

168.—Bundy, R. E. New locality records of reptiles in New Mexico. *Copeia* 1951 p. 314.

169.—Burger, W. L. New, revived, and reallocated names for North American whiptailed lizards, genus *Cnemidophorus*. *Nat. Hist. Misc., Chicago* No. 65 1950 pp. 1-9.

170.—Burger, W. L. A preliminary study of the subspecies of the jumping viper, *Bothrops nummifer*. *Bull. Chicago Acad. Sci.* 9 3 1950 pp. 59-67 1 pl. 1 fig.

171.—Burger, W. L. & Robertson, W. B. A new subspecies of the Mexican Mocassin, *Agkistrodon bilineatus*. *Univ.*

Kansas Sci. Bull. 34 1 1951 pp. 213-218 1 pl.

Burger, W. L., see Smith, P. W.

172.—Burgos, M. H. Régulation hormonale des caractères sexuels secondaires du crapaud mâle. *C.R. Soc. Biol. Paris* 145 1951 pp. 444-445.

173.—Burns, K. F. Production of polyvalent antivenin against *Trimeresurus flavovirides* and *Agkistrodon blomhoffii* venoms. *Amer. J. trop. Med.* 31 1951 pp. 665-668.

Bush, F. E., see Eakin, R. M.

174.—Butler, E. G. The mechanics of blastema formation and regeneration in urodele limbs of reversed polarity. *Trans. N.Y. Acad. Sci.* (2) 13 1951 pp. 164-167.

Butler, G. C., see Hurst, R. O.

175.—Cafiero, M., Guadabassi, A. & Sacerdote, M. Fosfomonoesterasi nel tegumento di *Rana esculenta*. *Bol. Soc. ital. Biol. sper.* 26 1950 pp. 155-157.

176.—Cagianut, B. Zur Wirkung von Sexualhormonen auf die Primitiventwicklung von *Triton alpestris*. Die Beeinflussung der hormonalen Störung durch Nukleinsäure. *Z. Zellf. mikr. Anat., Berlin* 34 1949 pp. 471-501 22 figs.

Cagianut, B., see Tondury, G.

177.—Gaglioti, M. J. L'assunzione di ossigeno da parte di embrioni e di larve di *Bufo vulgaris* trattati con fenantrenchinone. *Ric. Sci.* 21 9 1951 pp. 1588-1597. [English summary].

Call, A., see Woodbury, A. M.

178.—Callan, H. G. & Spurway, H. A study of meiosis in interracial hybrids of the newt, *Triturus cristatus*. *J. Genet.* 50 1951 pp. 235-249 2 pls. 4 figs.

Callan, H. G., see Tomlin, S. G.

179.—Camp, C. L. *Plotosaurus*, a new generic name for *Kolposaurus* Camp, preoccupied. *J. Paleont.* 25 1951 p. 822.

180.—Campbell, D. G. Notes on snakes near Malvern. *Nat. Hist. Notes, Nat. Hist. Soc. Jamaica* No. 51 1951 pp. 54-56.

Caplan, I. J., see Reinhart, H. L.

181.—Capraro, V., Cases, E., Vecchi, A. de & Mogna, G. Sulla permeabilità all'acqua della cute di *Rana esculenta*. Boll. Soc. ital. Biol. sper. **25** 1949 pp. 670-672 1 pl.

182.—Capraro, V. & Bernini, G. Sul meccanismo di azione della postipofisi nel passaggio di acqua attraverso la cute di *Rana esculenta*. R.C. Accad. Lincei (8) **11** 6 1951 pp. 385-391 2 figs.

183.—Capraro, V., Pennella, P. & Tiengo, M. L'influenza del pH sul passaggio dell'acqua attraverso la cute di "*Rana esculenta*". R.C. Accad. Lincei (8) **10** 3 1951 pp. 251-256 5 figs.

184.—Capraro, V. & Tiengo, M. L'influenza della differenza di potenziale (D.P.) della cute sul passaggio di acqua attraverso la cute di *Rana*. R.C. Accad. Lincei (8) **10** 5 1951 pp. 416-422 5 figs.

185.—Capraro, V. & Pennella, P. Sulla natura del passaggio di acqua attraverso la cute di *Rana esculenta*. Bull. Soc. ital. Biol. sper. **26** 9-10 1951 pp. 1421-1424.

Cardeza, A. F., see Penhos, J. C.

186.—Carl, G. C., Guiguet, C. J. & Hardy, G. A. Biology of the Scott Island group, British Columbia. Rep. Prov. Mus. Nat. Hist. Anthropol. Victoria, B.C. **1950** 1951 pp. B21-B63 17 figs.

187.—Carlander, K. D. & Moorman, R. B. Ugly acting snakes. Iowa Conser. **9** 11 1950 pp. 81-86. [Not seen].

188.—Carlander, K. D. & Moorman, R. B. Iowa's big snakes. Iowa Conserv. **9** 15 1950 pp. 89-94 photos. [Not seen].

189.—Carlander, K. D. & Moorman, R. B. How big are Iowa's snakes? Iowa Conserv. **10** 2 1951 pp. 105-111. [Not seen].

190.—Carlander, K. D. & Moorman, R. B. Iowa's land turtles. Iowa Conserv. **10** 2 1951 pp. 113, 118 figs. [Not seen].

191.—Carpenter, C. C. & Delzell, D. E. Road records as indicators of differential spring migrations of amphibians. Herpetologica **7** 2 1951 pp. 63-64.

192.—Carraud, G. Sur un cas de morsure de vipère avec réaction sérique précoce. Bull. Soc. Hist. Nat. Doubs. **51** 1947 pp. 99-103.

193.—Carvalho, J. C. de. Relações entre os Índios do Alto Xingu e a fauna regional. Publ. avuls. Mus. nac. Rio de J. No. 7 1951 pp. 1-32 10 pls.

Cases, E., see Capraro, V.

194.—Cate, G. ten, Korij, J. S. & Zuidweg, M. H. J. The effect of temperature on the synthesis of the enzyme cholinesterase in amphibian embryos. Proc. ned. Akad. Wet. Amsterdam **54C** 2 1951 pp. 157-170 3 figs.

195.—Cattaneo, P., Sutton, G. K. de & Penhos, J. C. Composition en acides gras du corps adipeux du crapaud *Bufo arenarum*. C.R. Soc. Biol. Paris **145** 1951 pp. 1727-1728 1 table.

Catté, G., see Baffoni, G. M.

196.—Cavazos, L. F. Spermatogenesis of the horned lizard *Phrynosoma cornutum*. Amer. Nat. **85** 1951 pp. 373-379 16 figs.

197.—Cayaffa-Bonifaz, J. J. & Vignolo-Puglia, W. H. Acción de la tiroxina sobre el corazón aislado de sapo (*Bufo arenarum* H.). ¹⁰ Comunicación: acción sobre el inotropismo cronotropismo y batmotropismo. Arch. Soc. Biol. Montevideo **17** 3-4 1951 pp. 53-57 2 figs. [English summary].

Cayaffa-Bonifaz, J. J., see Vignolo-Puglia, W. H.

198.—Ceccaldi, J., Trinquier, E., Arnoult, H., & Pellissier, A. Sur quatre cas d'envenimation par morsures de "Viperides" observés a l'Institut Pasteur de Brazzaville (Afrique Equatoriale Française). Bull. Soc. Path. Exot. **42** 1-2 1949 pp. 38-43. [Not seen].

199.—Cerquiglini, S. Eliminazione di spermatozoi nella *Rana esculenta* provocata da somministrazione di estratti bruti di cute omologa. Bol. Soc. ital. Biol. sper. **25** 1949 pp. 1124-1126.

200.—Cerquiglini, S. Eliminazione di spermatozoi negli anfibii (*Rana esculenta*) conseguente ad occlusione dell'orificio cloacale. Bol. Soc. ital. Biol. sper. **25** 1949 pp. 1126-1130.

201.—Champy, C., & Demay, M. Mécanisme hormono-neural du développement des callosités du mâle des anoures. C.R. Soc. Biol. **144** 1/2 1950 pp. 12–13.

202.—Chaney, A. H. The life history of *Desmognathus fuscus auriculatus*. Absts. Theses Tulana Univ. 1949 pp. 98–99. [Not seen].

203.—Chaney, A. H. The food habits of the Salamander *Amphiuma tridactylum*. Copeia **1951** pp. 45–49 4 tabs.

Chang, C. Y., see Witschi, E.

Chang, H. C., see Li, H. M.

Chang, Lan-Fen & Wei-Hsi, see Boring, A. M.

204.—Chardon, C. E. Los naturalistas en la America Latina. Vol. I. Los siglos xvi, xvii & xviii, Alejandro Humboldt, Carlos Darwin, La Española, Cuba y Puerto Rica. Ciudad Trujilla (Republic Dominicana). Secret. de Estado de Agric. Pecuaria y Coloniz. 1949 v. 386 pp. pls. [Not seen].

205.—Chatterjee, B. K. Animals of India. J. Bengal Nat. Hist. Soc. **25** 1951 pp. 6–22.

206.—Chen, P. S. & Baltzer, F. Investigation on the determination of the adhesive glands in *Bombinator pachypus* (xenoplastic transplantations). Rev. suisse Zool. **58** 1951 pp. 522–529 9 figs.

207.—Chen, T. I. & Tsai, C. Further observations on the mechanism of [hemostasis] in toad capillary. Chin. Journ. Phys. **17** 2 1949 pp. 191–200 figs. [Not seen].

208.—Chenoweth, W. L. Records of amphibians and reptiles from New Mexico, Utah, and Arizona. Trans. Kansas Acad. Sci. **53** 1950 pp. 532–534.

Chicco, R., see Pisano, A.

209.—Child, C. M. Oxidation-reduction indicator patterns in regeneration of the foreleg and tail of *Triturus torosus* larve. Biol. Bull. Wood's Hole **101** 1951 pp. 121–130 10 figs.

210.—Chin, K. Ueber die Beeinflussung des Blutzuckers sowie der Glykogenmenge in Leber und Mukeln des Kaninchens durch das Gift von

Trimeresurus mucrosquamatus Cantor. J. Med. Ass. Formosa **35** 1936 pp. 1646–1659.

211.—Chin, K. Ueber die Beeinflussung des Adrenalinegehaltes in Nebennieren und im Blut des Kaninchens durch das Gift von *Trimeresurus mucrosquamatus* Cantor. J. Med. Ass. Formosa **35** 1936 pp. 2335–2356.

212.—Chin, K. Ueber die Beeinflussung des gebundenen Blutzuckers des Kaninchens durch das Gift von *Trimeresurus mucrosquamatus* Cantor. J. Med. Ass. Formosa **36** 1937 pp. 606–620.

213.—Chin, K. Ueber den Einfluss gewisser Schlangengifte auf den Ca- und K-Gehalt des Kaninchenserums, sowie dessen Beziehungen zu den Tonusanomalien des vegetativen Nervensystems. ii. Studien über die Gifte formosanischer Elapinae. J. Med. Ass. Formosa **37** 1938 pp. 124–132.

214.—Chin, K. Ueber den Einfluss des Giftes von *Trimeresurus mucrosquamatus* (Cantor) auf den Milchsäuregehalt im Blut des Kaninchens. J. Med. Ass. Formosa **38** 1940 pp. 145–163.

215.—Chin, K. Einfluss der wichtigen formosanischen Schlangengifte auf die Gewebsatmung und Glykolyse von Niere, Miltz und Muskel der Kaninchen.

i. Mitteilung Wirkung des Giftes von *Trimeresurus mucrosquamatus*.

ii. Mitteilung Wirkung des Giftes von *Trimeresurus gramineus*.

iii. Mitteilung Wirkung des Giftes von *Agkistrodon acutus*.

iv. Mitteilung Wirkung des Giftes von *Naja naja atra*.

v. Mitteilung Wirkung des Giftes von *Bungarus multicinctus*.

J. Med. Ass. Taiwan, **42** 3 1943 pp. 1–19; 1–13; 1–12; 1–11; 1–14.

Chin, K., see To, S.

216.—Chowdhary, D. S. The carotid labyrinth of *Rana tigrina*. Nature, Lond. **167** 1951 p. 1074.

Christopherson, A. R., see Woodbury, L. A.

217.—Chu, W. Pregnancy test utilizing frogs and toads. Amer. J. Physiol. **163** 1950 pp. 294–296 1 table.

Cier, J. F., see Hermann, H.

218.—Cigada, M. Sulla specificità zoologica delle proteine muscolari. C.R. **13e Congr. int. Zool. Paris 1948** [1949] pp. 178–180.

Clarke, R. F., see Breukelman, J.

219.—Clayton, R. W. Antigens in the developing newt embryo. *Nature*, Lond. **168** 1951 pp. 120–121.

220.—Colbert, E. H. Environment and adaptations of certain dinosaurs. *Biol. Rev.* **26** 1951 pp. 265–284 3 figs.

221.—Colbert, E. H. & Mook, C. C. The ancestral crocodilian *Protosuchus*. *Bull. Amer. Mus. Nat. Hist.* **97** 1951 pp. 145–182 8 pls. 19 figs.

222.—Cole, W. V. Some observations on the comparative histology of the motor end-plate (A preliminary report). *Trans. Amer. micr. Soc.* **70** 1951 pp. 239–244 10 figs.

223.—Collins, R. L. A new turtle, *Toxochelys weeksi*, from the Upper Cretaceous of West Tennessee. *J. Tenn. Acad. Sci.* **26** 1951 pp. 262–269 7 figs.

224.—Colombo, G. Le variazioni della struttura del nucleo nello sviluppo embrionale degli anfibi. *Monit. zool. ital.* **59** Suppl. 1951 pp. 140–142.

225.—Conant, R. On the taxonomic status of *Thamnophis butleri* (Cope). *Bull. Chicago Acad. Sci.* **9** 4 1950 pp. 71–77.

226.—Conant, R. A southward range extension for the keeled green snake, *Ophiodrys aestivus*. *Nat. Hist. Misc.*, Chicago No. 85 1951 pp. 1–2.

227.—Conant, R. Collecting lizards at night under bridges. *Copeia* **1951** pp. 79–80.

Conant, R., see Schmidt, K. P.

228.—Contu, P. Ricerche sulla glioarquitettonica dei vertebrati: Il nervo ottico dei rettili. *Monit. zool. ital.* **59** 1951 pp. 13–16 2 figs.

229.—Contu, P. Ricerche sulla glioarquitettonica dei vertebrati v. Rettili. *Monit. zool. ital.* **59** Suppl. 1951 pp. 147–149.

Coomes, T. J., see Bennett, H.

230.—Cooper, J. E. The scarlet snake (*Cemophora coccinea*) in Maryland. *Maryland Nat.* **20** 4 1950 pp. 67–69 1 map 2 figs.

231.—Cooper, J. E. Maryland tree frogs. *Maryland Nat.* **20** 4 1950 pp. 77–80 figs.

232.—Copenhaver, W. M. & Detwiler, S. R. The growth and pigmentary responses of *Amblystoma* embryos reared in antithyroid compounds. *J. exp. Zool.* **117** 1951 pp. 259–285 15 figs.

Coraboeuf, E., see Rudolph, G.

233.—Cortelyn, J. R. The effect of low temperature on *Amblystoma punctatum* in relation to developmental acceleration. *Growth* **14** 1950 pp. 327–339 2 pls.

234.—Costello, D. P., Henley, C. & Kent, D. E. The “carrier” effect as a protective agent against radiation damage to dividing cells of *Amblystoma punctatum* larvae. [Abstract]. *Anat. Rec.* **111** 1951 p. 539.

Costello, D. P., see Henley, C.

235.—Coulson, R. A., Hernandez T. & Brazda, F. G. Biochemical studies on the alligator. *Proc. Soc. exp. Biol.*, N.Y. **73** 1950 pp. 203–206.

236.—Coulson, R. A., Hernandez F. & Dessauer, H. C. Alkaline tide of the alligator. *Proc. Soc. exp. Biol.*, N.Y. **74** 1950 pp. 866–869.

Coulson, R. A., see Hernandez, T.

237.—Couto, C. de Paula. Sôbre os vertebrados fósseis da coleção Sellow, do Urugual. *Bol. Brasil. Div. Geol. e Mineral* **125** 1948 pp. 1–14 illust.

238.—Cowan, I. Mc. T. & Hick, W. B. M. A comparative study of the myology of the head region in three species of *Thamnophis* (Reptilia, Ophidia). *Trans. roy. Soc. Can.* (3) **45** 5 1951 pp. 19–60 10 figs. **45** 6 1951 p. 212. [Abstract].

Craig, M., see Adams, A. E.

239.—Crescitelli, F. Effects of oxine, carbostyryl and quinoline on frog nerve. *Amer. J. Physiol.* **163** 1950 pp. 197–200 1 fig.

240.—Crescitelli, F. A temperature differentiation of the dual action of amylcarbarnate on frog nerve. *J. cell. comp. Physiol. Philad.* **35** 1950 pp. 261–272 4 figs.

241.—Cresseri, A. & Bevacqua, R. Azione della gonadotrofina placentaria ed ipofisaria sul maschio di *Rana esculenta* L.—I. Saggio con progoni I.S.M. *Boll. Soc. ital. Biol. sper.* **26** 1950 pp. 736–738.

242.—Cresseri, A. & Bevacqua, R. Azione della adrenalina e degli adrenalino—simili sulla gonade maschili di *Rana esculenta* L. *Boll. Soc. ital. Biol. sper.* **26** 1951 pp. 1503–1505 tables.

243.—Crusafont Pairo, M. & Truyola Santonja, J. Hallazo del *Plesiodimylus chantrei* Gaillard en el Meotico del Valles. *Notas Com. Inst. geol. España* **22** 1951 pp. 99–126 text-figs. 1–5 1 plate.

244.—Curtis, L. An additional record of the salamander *Amphiuma* in Texas. *Field & Lab.* **19** 1951 p. 84.

245.—Curtis, L. Physiographic influences of the Edwards Plateau on its endemic amphibian fauna—a résumé. *Field & Lab.* **19** 1951 pp. 119–124.

246.—Curtis, L. & Tinkle, D. The striped water snake, *Natrix rigida* (Say), in Texas. *Field & Lab.* **19** 1951 pp. 72–74 1 fig.

Curtis, L., see Tinkle, D.

247.—Dalcq, A. M. La régulation morphogénétique chez les amphibiens. *Année biol.* (3) **26** 6 1950 pp. 209–228.

248.—Dalton, H. C. Embryonic pituitary activity in relation to the development of genetic pigment patterns in the Mexican axolotl. [Abstract]. *Anat. Rec.* **111** 1951 pp. 455–456.

249.—Dalton, H. C. & Hall, J. Gene action in the axolotl. *Yearb. Carnegie Instn. No. 49* 1950 pp. 181–189 2 pls. figs. tables.

250.—Dalton, R. F. A preliminary re-survey of the distribution of the Dorset Amphibia and Reptilia with some notes on their characters and habits. *Proc. Dorset Nat. Hist. archaeol. Soc.* **72** 1951 pp. 135–143 1 pl. 1 chart.

Dam, H., see Kruse, J.

251.—[Danini, E. S.]. Comparative histological study on dentine. Development and function of dentine in some Amphibians. *C.R. Acad. Sci. URSS, n.s.* **80** 1951 pp. 949–952 3 figs. [In Russian].

Danon, M., see Guyenot, E.

252.—Davies, F., Francis, E. T. B. & King, T. S. Electrocardiogram of the crocodilian heart. *Nature, Lond.* **167** 1951 p. 146.

253.—Davis, H. T. & Brimley, C. S. Poisonous snakes of the eastern United States with first aid guide. *North Carolina State Mus. (Raleigh : N. Carolina)*, undated; pp. 1–16 figs. pls. [Not seen].

254.—Davis, L. T. Comparative study of the phosphatases of vertebrate retina. *Anat. Rec.* **111** 1951 pp. 535–536.

255.—Davis, W. B. Food of the Black-banded Snake *Coniophanes imperialis imperialis* Baird. *Copeia* **1951** p. 314.

256.—Dawson, A. B. Functional, and degenerate or rudimentary glomeruli in the kidney of two species of Australian frog, *Cyclorana (Chiroleptes) platycephalus* and *alboguttatus* (Günther). *Anat. Rec.* **109** 1951 pp. 417–430 4 figs.

257.—de Beer, G. R. Vertebrate Zoology : an introduction to the comparative anatomy, embryology and evolution of chordate animals, London (Sidgwick & Jackson) 1951 pp. XV + 435 185 figs.

Dechambre, E., see Urbain, A.

258.—Dekeyser, P. L. & Villiers, A. Mission J. Cadenat aux Iles du Cap Vert. Reptiles. *Bull. Inst. franç. Afriq. noire* **13** 4 1951 pp. 1152–1158.

Delabie, J., see Petit, G.

259.—De Lanney, L. E. Heterotopic transplantation of neural crest and melanogenesis in salamanders. [Abstract]. *Proc. Indiana Acad. Sci.* **60** 1951 pp. 309–310.

260.—Delsol, M. L'hypophyse des batraciens néoténiques expérimentaux et naturels. *Bull. Soc. Hist. Nat. Toulouse* **86** 1951 pp. 151–152.

- Delzell, D. E.**, see Carpenter, C. C.
- Demaree, H. A.**, see Brunson, R. B.
- Demay, M.**, see Champy, C.
- Denny, D.**, see Hansborough, L. A.
- Dent, J. N.**, see Gennaro, J. F.
- 261.—Deraniyagala, P. E. P.** Mass movement in some marine turtles and turtle fish. *Spolia zeylan.* **26** 1951 p. 17.
- 262.—Deraniyagala, P. E. P.** The generic status of the Chinese alligator. *Spolia zeylan.* **26** 1951 pp. 143–145 1 pl.
- 263.—Deraniyagala, P. E. P.** Some new races of the snakes *Eryx*, *Callophis* and *Echis*. *Spolia zeylan.* **26** 1951 pp. 147–150.
- 264.—Deraniyagala, P. E. P.** Bibliography from 1927–1952. *Spolia zeylan.* **26** 1951 pp. 272–274.
- Dessauer, H. C.**, see Coulson, R. A.
- 265.—Detwiler, S. R.** Further experimental observations on the differentiation of the otic vesicle in *Amblystoma*. *J. exp. Zool.* **116** 1951 pp. 415–430 11 figs.
- 266.—Detwiler, S. R.** Structural and functional adjustments following reversal of the embryonic medulla in *Amblystoma*. *J. exp. Zool.* **116** 1951 pp. 431–446 12 figs.
- 267.—Detwiler, S. R. & Van Dyke, R. N.** Recent experiments on the differentiation of the labyrinth in *Amblystoma*. *J. exp. Zool.* **118** 1951 pp. 389–405 2 pls.
- Detwiler, S. R.**, see Copenhaver, W. M.
- 268.—Devanny, J.** Travels in North Queensland, London pp. 1–251 23 pls. maps.
- 269.—Dickinson, W. E.** Recent additions to the records of the distribution of the reptiles in Wisconsin. *Trans. Wis. Acad. Sci. Arts Lett.* **40** 1 1950 pp. 71–77.
- Dollo, L.**, see Brien, P.
- 270.—Dourado, L.** Contribuição aos processos de montagem de esqueletos de ofídios. *Dusenía* **1** 1950 pp. 237–240 1 fig.
- 271.—Dowling, H. G.** A taxonomic study of the Ratsnakes, genus *Elaphe* Fitzinger. I. The status of the name *Scotophis laetus* Baird and Girard (1853). *Copeia* **1951** pp. 39–44 2 figs.
- 272.—Dowling, H. G.** A proposed method of expressing scale reduction in snakes. *Copeia* **1951** pp. 131–134.
- 273.—Dowling, H. G.** A practical solution of the nomenclature of the common Gartersnake and the Ribbon-snake. *Copeia* **1951** pp. 309–310.
- 274.—Dowling, H. G.** A proposed standard system of counting ventrals in snakes. *Brit. J. Herpetol.* **1** 5 1951 pp. 97–99 fig.
- 275.—Drebing, K.** Kerngifte und Lichtstrahlung. Eine Studie an Froschperimen zur Wirkungsanalyse der Kerngifte. *Arch. EntwMech. Org.* **145** 1951 pp. 174–204 4 figs.
- 276.—Dreux, P. & Girons, H.** Saint. Ecologie des Viperes. II. *Vipera ursinii* Bon. *Bull. Soc. zool. Fr.* **76** 1951 pp. 47–54 2 figs.
- 277.—Duellman, W. E.** Notes on the reptiles and amphibians of Greene County, Ohio. *Ohio J. Sci.* **51** 1951 pp. 335–341 4 figs.
- Duellman, W. E.**, see Wood, J. T.
- 278.—Duguy, R.** Un spécimen de *Vipera berus seonnei* (Lataste) des Pyrénées Françaises. *Bull. Soc. zool. Fr.* **76** 1951 pp. 45–46.
- 279.—Duguy, R.** Recherches sur le venin de *Vipera ursinii*. *Ann. Inst. Pasteur Paris* **81** 1951 pp. 361–363.
- 280.—Dundee, H. & Bragg, A. N.** Extensions of known Salientian ranges in Oklahoma. *Proc. Okla. Acad. Sci.* **26** 1946 pp. 18–19.
- Dundee, H.**, see Bragg, A. N.
- 281.—Dunlap, D. G. & Storm, R. M.** The cascade frog in Oregon. *Copeia* **1951** p. 81.
- 282.—Dunn, E. R.** The status of the snake genera *Dipsas* and *Sibon*, a problem for “quantum evolution.” *Evolution* **5** 1951 pp. 355–359.
- 283.—Dunn, E. R. & Stuart, L. C.** On the legality of restriction of type locality. *Science* **113** 1951 pp. 677–678.

284.—Dunn, E. R. & Stuart, L. C. Comments on some recent restrictions of type localities of certain South and Central American Amphibians and Reptiles. *Copeia* **1951** pp. 55–61.

285.—Durham, F. E. Observations on a captive Gila monster. *Amer. Midl. Nat.* **45** 1951 pp. 460–470.

286.—Dürken, A. Die Wirkung von Ultraviolettbestrahlungen auf die Ohranlage von *Triton alpestris*. *Arch. EntwMech. Org.* **144** 1951 pp. 521–554 12 figs.

Duryee, W. R., see *Villee, C. A.*

287.—Dutt, L. Observations on a baby crocodile. *Nat. Hist. Notes, Nat. Hist. Soc. Jamaica*, No. 51 1951 pp. 53–54.

288.—Dyk, V. Pulci blatnice česnekové (*Pelobates fuscus* Laur.) v akvarin. [The tadpoles of *P. fuscus* in aquarium]. *Akvaristické Listy* **23** 1951 pp. 130–131 fig.

289.—Eakin, R. N., Berg, W. E. & Kutsky, P. B. Studies in protein metabolism of the amphibian embryo. II. Free amino acid. *Proc. Soc. exp. Biol.* **75** 1950 pp. 32–34 1 fig.

290.—Eakin, R. M. & Bush, F. E. The development of the neural lobe of the pituitary in hypophysectomized embryos of the tree-frog, *Hyla regilla*. [Abstract]. *Anat. Rec.* **111** 1951 pp. 544–545.

291.—Eakin, R. M. & Harris, M. Function and fate of transplanted pituitary in amphibians. *J. exp. Zool.* **116** 1951 pp. 165–189 11 figs.

292.—Eakin, R. M., Kutsky, P. B. & Berg, W. E. Protein metabolism of amphibian embryo. III. Incorporation of methionine into protein of gastrulae. *Proc. Soc. exp. Biol. N.Y.* **78** 1951 pp. 502–504 1 table.

293.—Eames, F. E. On the age of the fauna of the Bugti bone beds, Baluchistan. *Geol. Mag.* **87** 1 1950 pp. 53–56 illus.

294.—Edgren, R. A. Notes on the neotropical population of *Hemidactylus frenatus* Schlegel. *Nat. Hist. Misc., Chicago* No. 55 1950 pp. 1–3.

295.—Edgren, R. A. The umbilical scar, a sexually dimorphic character in *Heterodon platyrhinos*. *Nat. Hist. Misc., Chicago* No. 83 1951 pp. 1–2.

Edgren, R. A., see *Park, O.*

296.—Edney, J. M. & Allen, W. R. Age of the Boxturtle, *Terrapene carolina carolina* (Linnaeus). *Copeia* **1951** p. 312.

297.—[Efremov, I. A. J.] The structure of the knee joint in the upper Dicynodontidae. *C.R. Acad. Sci. URSS. n.s.* **77** 3 1951 pp. 483–485 [In Russian].

298.—[Efremov, I. A. J.] Discovery of lower Permian quadrupeds in Northern Kazakhstan. *C.R. Acad. Sci. URSS n.s.* **77** 4 1951 pp. 721–724 [In Russian].

299.—Eibl-Eibesfeldt, I. Verhaltensstudien an Kaulquappen und Jungkröten der Erdkröte. *Umwelt* **2** 3 1949 pp. 6–7. [Not seen].

300.—Eibl-Eibesfeldt, I. Nahrungserwerb und Beuteschema der Erdkröte (*Bufo bufo* L.). *Behaviour* **4** 1951 pp. 1–35.

301.—Eichbaum, F. W. & Stammreich, H. Oxidizing agents in snake venoms. *An. Acad. bras. Sci.* **13** 1 1951 pp. 91–99 5 figs. tables.

Eisa, E. A., see *Francis, E. T. B.*

302.—Elkan, E. Functions of amphibian skin. *Aquarist* **16** 1951 pp. 164–167 7 figs.

303.—Elkan, E. & Murray, R. W. New lateral line sensory organs in *Xenopus laevis* Daudin. *Nature, Lond.* **168** 1951 p. 477 2 figs.

304.—El Toubi, M. R. & Khalil, A. Caudal ribs in geckos. *Nature, Lond.* **166** 1950 p. 1120 1 fig.

305.—Engel-Baersdorf, E. C. von. The tuatara. *Mus. & Art Notes, Vancouver* (2) **1** 4 1951 pp. 18–20 1 fig.

306.—Engelbrecht, D. van Z. Contributions to the cranial morphology of the chamaelon *Microsaura pumila* Daudin. *Ann. Univ. Stellenbosch* **27A** 1–5 1951 pp. 1–31 13 figs.

307.—Ernst, F. *Tomodon dorsatus* Dumeril & Bibron, 1854. *Aquar. Terrar. Z., Stuttgart* **4** 1951 pp. 245–246 2 figs.

- 308.—Erspamer, V. & Vialli, M.** Presence of enteramine in the skin of Amphibia. *Nature*, Lond. **167** 1951 p. 1033.
- 309.—Esposito Seu Margherita, M.** Gli enzimi della schiusa negli Anfibi. *Boll. Zool.* **17** 1950 pp. 105–106 1 fig.
- 310.—Evans, H. E. & Roecker, R. M.** Notes on herpetology of Ontario, Canada. *Herpetologica* **7** 2 1951 pp. 69–71.
- 311.—Evans, L. T.** Field study of the social behavior of the black lizard, *Ctenosaura pectinata*. *Amer. Mus. Novit.* No. 1493 1951 pp. 1–26 8 figs.
- 312.—Evans, L. T.** Male hormone effects upon the claws of juvenile box tortoises. [Abstract]. *Anat. Rec.* **109** 1951 p. 370.
- 313.—Evans, L. T.** Territory and display in the lizard, *Liocephalus carinatus coryi*. [Abstract]. *Anat. Rec.* **111** 1951 pp. 531–532.
- 314.—Evans, L. T.** Territory and display in the lizard, *Holbrookia texana*. *Anat. Rec.* **111** 1951 p. 532.
- 315.—Evans, L. T.** Endocrines and secondary sex characters of the box tortoise, *Terrapene carolina*. [Abstract]. *Anat. Rec.* **111** 1951 p. 555.
- 316.—Evans, L. T.** Effects of male hormone upon the tail of the slider turtle, *Pseudemys scripta troostii*. *Science* **114** 1951 pp. 277–279 4 figs.
- 317.—Evans, L. T. & Quaranta, J. V.** A study of the social behavior of a captive herd of giant tortoises. *Zoologica*, N.Y. **36** 1951 pp. 171–181 4 figs.
- 318.—Ewer, R. F.** Water uptake and moulting in *Bufo regularis* Reuss. *J. exper. Biol.* **28** 1951 pp. 369–373 2 figs.
- 319.—Ewer, R. F.** The effect of pitressin and pitocin on water balance in *Bufo regularis* Reuss. *J. exper. Biol.* **28** 1951 pp. 374–384 4 figs.
- 320.—Facco, E.** Il differenziamento sessuale nella *Rana esculenta* di Padova. *Atti Ist. veneto Cl. Sci. mat. Nat.* **108** 1950 pp. 79–94.
- 321. — Farinella-Ferruzza, N.** Risultati di esperimenti di trapianti eterogenei dell'abbozzo codale negli Anfibi. *Boll. Zool.* **17** 1950 pp. 113–119 2 figs.
- 322.—Faul, H. & Roberts, W. A.** New fossil footprints from the Navajo (?) Sandstone of Colorado. *J. Paleont.* **25** 3 1951 pp. 266–274 pls. 40–43 5 text-figs.
- 323.—Fautrez, J.** Experimental production of supernumerary fore limbs in *Triturus taeniatus*. *Nature*, Lond. **167** 1951 pp. 902–903 1 fig.
- 324.—Fautrez, J.** L'action de l'urée sur le développement embryonnaire de *Rana temporaria*. *Arch. Biol.*, Paris **62** 1951 pp. 195–307 1 pl. 1 fig.
- 325.—[Fedorova, Z. F.]** Anomalies in the development of hybrids caused by a distant cross-breeding. *C.R. Acad. Sci. URSS n.s.* **79** 5 1951 pp. 903–906 2 figs. [In Russian].
- 326.—Ferguson, M. B.** The concentration of riboflavin in the tissues of the embryos, larvae, juveniles, and adults of the frog, *Rana pipiens pipiens*. *Physiol. Zool.* **24** 1951 pp. 41–54 7 figs. 1 tab.
- 327.—Ferri, R. G. & Guidolin, R.** Fluorescence and photoinactivation of snake poisons. *Science* **113** 1951 pp. 300–302 tables.
- Fettig, B.**, see Fleckenstein, A.
- 328.—Ficq, A.** Autoradiographie par neutrons. Dosage du lithium dans les embryons d'Amphibiens. *C.R. Acad. Sci. Paris* **233** 1951 pp. 1684–1685 2 figs.
- Figge, F. H. J.**, see Brunst, V. V.
- Fine-Lasfargues, J.** di, see Lasfargues, E.
- 329.—Finneran, L. C.** Migration to the breeding pond by the spotted salamander. *Copeia* **1951** p. 81.
- 330.—Firschein, I. L.** A peculiar behavior pattern in a Mexican toad, *Bufo nayaritensis* during amplexus. *Copeia* **1951** pp. 73–74 1 fig.
- 331.—Firschein, I. L.** Phragmosis and the "Unken Reflex" in a Mexican hyliid frog *Pternohyla fodiens*. *Copeia* **1951** p. 74.

332.—Firschein, I. L. Rediscovery of the broad-headed frog, *Eleutherodactylus laticeps* (Duméril), of Mexico. *Copeia* **1951** pp. 268–274 1 pl.

333.—Firschein, I. L. The range of *Cryptobranchus bishopi* and remarks on the distribution of the genus *Cryptobranchus*. *Amer. Midl. Nat.* **45** 1951 pp. 455–459.

334.—Firschein, I. L. & Miller, L. S. The ringed salamander, *Ambystoma annulatum* in Oklahoma. *Copeia* **1951** p. 82.

Firschein, I. L., see Reese, R. W.

335.—Fischer, H., & Langemann, H. Über die Wirkung von Nukleinsäuren allein und in Kombination mit dem herzaktiven glukosid Convallatoxin auf das isolierte Froschherz. *Helvetia Physiol. Pharmacol. Acta* **9** 4 1951 pp. 406–415. [Not seen].

336.—Fischer, P. & Lecomte, J. Noradrenaline and adrenaline in the paratoid gland of tropical toads. *Arch. Inst. Pharmacodyn.* **81** 1950 pp. 387–389. [Not seen].

337.—Fisk, A. & Tribe, M. The glomerular border in the development of the vertebrate kidney. *Nature, Lond.* **167** 1951 pp. 266–268 5 figs.

338.—Fitch, H. S. Outline for ecological life history studies of reptiles. *Ecology, Lancaster, Pa.* **30** 1949 pp. 520–532.

339.—Fitch, H. S. A simplified type of funnel trap for reptiles. *Herpetologica* **7** 1951 pp. 77–80 fig.

340.—Fitch, H. S. & Tanner, W. W. Remarks concerning the systematics of the collared lizard (*Crotaphytus collaris*), with a description of a new subspecies [*C. C. auriceps, subsp. nov.*]. *Trans. Kans. Acad. Sci.* **54** 1951 pp. 548–559 2 figs.

Flagler, E. A., see Johnson, F. H.

Flandrois, R., see Hermann, H.

341.—Fleay, D. Where venomous snake meets carnivorous frog. *Animal Kingdom, N.Y.* **54** 1951 pp. 9–13 5 figs.

342.—Fleay, D. The scarlet wrestlers of the Australian bush. *Animal Kingdom, N.Y.* **54** 1951 pp. 84–88 4 figs.

343.—Fleckenstein, A. & Fettig, B. Die Hemmung der Hitze—Koagulation des Eidotters durch Bienengift und Schlangengifte und die Verhinderung dieses Gift-Effektes durch Phosphatase-Inhibitoren. *Z. Naturf.* **62** 1951 pp. 213–216.

344.—Florian, J. Gastrulace a notogenese obratlovců, Zvlášť člověka. *Mém. Soc. Sci. Bohème Cl. Sci.* **1945** 10 1947 pp. 1–26 7 pls. [French résumé].

345.—Forcart, L. Nomenclature remarks on some generic names of the snake family Boidae. *Herpetologica* **7** 1951 pp. 197–199.

Formentano, V., see Bevacqua, R.

346.—Fouad Khalil. Excretion in reptiles. IV. Nitrogenous constituents of the excreta of lizards. *J. biol. Chem.* **189** 1951 pp. 443–445 1 table.

347.—Fowler, J. A. Preliminary observations on an aggregation of *Plethodon dixi*. *Herpetologica*, **7** 1951 pp. 147–148.

348.—Fowler, J. A. & Hoffman, R. L. *Gastrophryne carolinensis carolinensis* (Holbrook) in southwestern Virginia. *Virginia J. Sci.* **2** 2 1951 p. 101. [Not seen].

349.—Fox, E. & Irving, J. T. The ossification process in the long bones of *Xenopus laevis*. *S. Afr. J. med. Sci.* **15** 1–2 1950 pp. 5–10 4 pls.

350.—Fox, W. The Status of the Gartersnake, *Thamnophis sirtalis tetrataenia*. *Copeia* **1951** pp. 257–267 3 figs.

351.—Fox, W. Relationships among the Garter Snakes of the *Thamnophis elegans* Rassenkreis. *Univ. Calif. Publ., Zool.* **50** 1951 pp. 485–530 13 figs.

352.—Fox, W. S. The Little Swamp Rattlesnake in inland Ontario. *Canad. Field Nat.* **65** 1951 p. 39.

353.—Foxon, G. E. H. A radio-graphic study of the passage of the blood through the heart in the frog and the toad. *Proc. Zool. Soc. Lond.* **121** 1951 pp. 529–538 4 pls. 1 fig.

354.—Francis, E. T. B. & Eisa, E. A. Salivary diastases of the frog and toad. *Nature, Lond.* **167** 1951 p. 281.

Francis, E. T. B., see Davies, F.

355.—Frank, E. Sind die periodischen Bewegungen des Magens (Frosch) auf Interferenzerscheinungen Zurückzuführen? Pflüger's Arch. Physiol. **254** pp. 61–78. [Not seen].

356.—Frank, G. H. Contributions to the cranial morphology of *Rhampholeon platyceps* Günther. Ann. Univ. Stellenbosch **27A** 1–5 1951 pp. 33–67 18 figs.

357.—Frassinetti, A. Sulla variazione stagionale della riposta eiaculatoria all'adrenalina in *Rana esculenta*. Boll. Soc. ital Biol. sper. **26** 1950 pp. 828–830.

358.—Freiburg, R. E. An ecological study of the narrow-mouthed toad (*Microhyla*) in northeastern Kansas. Trans. Kans. Acad. Sci. **54** 1951 pp. 374–386.

359.—Frenguelli, J. Ichnites en el Paleozoico superior del Oeste argentino. Riv. Assoc. Geol. Argentino **5** 3 1950 pp. 136–148 1 pl. text-figs. 1–4.

360.—Freytag, G. E. Über den kleinen westeuropäischen Wassermolch *Triturus boscai* von Oropesa (Toledo) in Spanien, nebst Bemerkungen über einige Farbkleidanomalien. Mitt. Mus. Naturk. Magdeb. **3** 1 1951 pp. 1–4 2 figs.

361.—Freytag, G. E. Über die nordamerikanische Salamandergattung *Ensatina*. Aquar. Terrar. Z., Stuttgart **4** 1951 pp. 76–77 2 figs.

362.—Freytag, G. E. Über das Farbkleid der Salamandriden in seiner Abhängigkeit von äusseren und inneren Faktoren. Veröff. zool. Staatsamml. Münch. **2** 1951 pp. 79–124 1 pl.

Freytag, G. E., see Bandt, H.-J.

Freytag, G. E., see Geyer, H.

Freytag, G. E., see Wolterstorff, W.

363.—Frieden, E. H. & Bozer, J. M. Effect of administration of intermediated upon melanin content of the skin of *Rana pipiens*. Proc. Soc. exp. Biol. **77** 1 1951 pp. 35–37 1 table.

364.—[Frolova, S. L.]. The role of the structure of nucleus in the shape determination of the head in animal spermatozoa. C.R. Acad. Sci. URSS. n.s. **78** 6 1951 pp. 1215–1218 4 pp. [In Russian].

365.—Fujii, T. Ultraviolet absorption spectra of amphibian organizer and of frog skin. Annot. zool. jap. **23** 1950 pp. 103–108 3 pls.

366.—Fujii, Y. Einfluss der wichtigeren formosanischen Schlangengifte auf den Glutathionegehalt des Kaninchenblates.

i. Mitt. Experimentelle Untersuchungen über das Gift von *Trimeresurus mucrosquamatus* Cantor.

ii. Mitt. Experimentelle Untersuchungen über das Gift von *Trimeresurus gramineus* Shaw.

iii. Mitt. Experimentelle Untersuchungen über das Gift des *Agkistrodon acutus* Gunther.

iv. Mitt. Experimentelle Untersuchungen über das Gift von *Naja naja* Cantor.

v. Teil. Experimentelle Untersuchungen über das Gift von *Bungarus multicinctus* Blyth.

J. Med. Ass. Taiwan **61** 1942 pp. 168–186; 328–340; 383–397; 527–541; 710–723.

Funkhouser, J. W., see Myers, G. S.

367.—Furon, R. Les grandes lignes de la paléogéographie de la Méditerranée (Tertiaire et Quaternaire). Vie et Milieu, Paris **1** 1950 pp. 131–162 5 figs.

368.—Galgano, M. & Lanza, B. Contributi intorno all'azione della temperatura e dell'ormone follicolostomolante sulla stasi spermatogenetica in "*Rana temporaria*". R.C. Accad. Lincei (8) **11** 1–2 1951 pp. 105–111.

369.—Galgano, M. & Mazzi, V. Modalità 'di regolazione dei cicli sessuali foto-e termoperiodici nei vertebrati. Riv. Biol. N.S. **43** 1 1951 pp. 21–69 6 figs. [English summary].

370.—[Galkovskaya, K. F.]. [Functional restoration in a denervated limb in Axolotl after being X-rayed]. C.R. Acad. Sci. URSS. n.s. **81** 5 1951 pp. 945–948 3 figs. [In Russian].

371.—Gall, J. G. The oocyte chromosomes of *Triturus*. [Abstract]. Anat. Rec. **111** 1951 p. 472.

372.—Gallardo, J. M. Sobre un Teiidæ (Reptilia, Sauria) poco conocido para la fauna Argentina. Comun. Inst. Invest. Cienc. Nat. B. Aires Zool. **2** 1 1951 pp. 1–8 2 figs.

373.—Gallera, J. Contribution a l'étude expérimentale de la morphogenèse de l'acrencephale chez les amphibiens. Arch. EntwMech. Org. **145** 1951 pp. 143-173 8 figs.

374.—Gallien, L. Les hormones sexuelles dans la différenciation du sexe chez les amphibiens. Arch. Anat. micr. Morph. exp. **39** 1951 pp. 337-366 3 figs.

375.—Gallien, L. Sur la descendance unisexuée d'une femelle de *Pleurodeles waltlii* Michah. ayant subi pendant sa phase larvaire, l'action gynogène du benzoate d'oestradiol. C.R. Acad. Sci., Paris **233** 1951 pp. 828-830.

376.—Gallien, L. L'éthynyl-testostérone a une action féminisante sur la gonade de l'urodèle *Pleurodeles waltlii* Michah. C.R. Acad. Sci. Paris **232** 1951 pp. 2133-2135.

377.—Gallien, L. Les recherches expérimentelles sur l'action des hormones sexuelles dans la différenciation et l'organogénèse du sexe chez les batraciens. Année biol. (3) **27** 9-10 1951 pp. 653-670.

378.—Gallien, L. & Beetschen, J. C. Extension et limites du pouvoir régénération des membres chez *Xenopus laevis* Daudin après la métamorphose. C.R. Soc. Biol., Paris **145** 1951 pp. 874-876 5 figs.

379.—Gallien, L. & Houillon, C. Table chronologique du développement chez *Discoglossus pictus*. Bull. biol. **85** 1951 pp. 373-375.

380.—Galli-Mainini, C. Sécrétion de l'oviducte du crapaud par l'ovaire en ovulation. C.R. Soc. Biol. Paris **145** 1951 pp. 131-133.

381.—Galli-Mainini, C. Action de l'ovaire et des oestrogènes sur l'oviducte du crapaud. C.R. Soc. Biol. Paris **145** 1951 pp. 133-134.

Gamero-Reyes, A., see Kemp, N. E.

382.—Ganapati, P. N. & Krishnan Nayar, K. Occurrence of the limbless lizard *Barkudia* Annandale at Waltair. Curr. Sci. **21** 4 1951 pp. 105-106.

Garcia, M. J., see Llambes, J. J.

383.—Garven, H. S. D. On the size of the liver and spleen in the various classes of vertebrates. Peking nat. Hist. Bull. **16** 1948 pp. 175-177 tables.

384.—Gaunitz, C. B. Några faunistiska anteckningar från Sorsele socken av Vasterbottens län. [Zoological notes from Sorsele in Swedish Lapland]. Svensk Faunistisk Revy **11** 4 1949 pp. 71-79 illus. [Not seen].

385.—Gennaro, J. F. Jr. & Dent, J. N. A tracer study of the distribution of phosphorous (Pu) in metamorphosing tadpoles (*R. pipiens*). [Abstract]. Anat. Rec. **109** 1951 p. 295.

386.—Gerds, L. How scientists make a controlled snake study. Frontiers **15** 4 1951 pp. 111-112: 124 figs. [Not seen].

387.—Gessner, O. Über das Salamandergift. Nova Acta Leop. Carol. N.F. **12** 88 1943 pp. 405-422 10 figs.

388.—Geyer, H. & Freytag, G. E. Über Kreuzungen zwischen Tigersalamander (*Ambystoma tigrinum*) und Axolotl (*Ambystoma mexicanum*) und ihre F₂-Generation. Mitt. Mus. Naturk. Magdeb. **2** 2 1949 pp. 9-23 9 figs.

Ghatge, N. D., see Airan, J. W.

389.—Ghosh, B. N. The enzymes and enzyme inhibitors contained in snake venoms. Immunity Bull. **1950** pp. 102-108.

390.—Giacomelli, A. M. Osservazione preliminari sul rapporto tra volumi nucleari e corredo cromosomico nell'Axolotl. Atii Ist. veneto Cl. Sci. mat. nat. **108** 1950 pp. 215-221.

391.—Gidon, M. Les vertébrés fossiles de Bourbon-l'Archambault. Rev. sci. Bourbon, **1949-50** 1950 pp. 38-40 2 pls.

392.—Gifford, E. W. Archaeological excavations in Fiji. Anthropol. Rec. Chicago **13** 3 1951 pp. i-v 189-288 18 pls. figs. maps.

393.—[Gintzburg, G. I.] Reciprocal influence of the graft on the host in transplantations of limbs of various ages in Anura. C.R. Acad. Sci. URSS. n.s. **78** 1 1951 pp. 153-156. [In Russian].

394.—[Gintzburg, G. I.]. Transformation of cells and limb tissues of tadpoles grafted to adult frogs. C.R. Acad. Sci. URSS. n.s. **80** 3 1951 pp. 485–488 2 figs. [In Russian].

395.—Girons, H. S. Écologie et éthologie des vipères de France. Année biol. (3) **27** 11–12 1951 pp. 755–770 7 figs.

Girons, H. S., see Dreux, P.

396.—Glass, B. P. Age at maturity of neotenic *Ambystoma tigrinum mavortium* Baird. Amer. midl. Nat. **46** 1951 pp. 391–394 4 figs.

397.—Glass, B. & Hartweg, N. *Kinosternon murrayi*, a new musk turtle of the *hirtipes* group from Texas. Copeia 1951 pp. 50–52 1 fig.

398.—Glauert, L. A new *Varanus* from East Kimberley [*V. mertensi*, sp. nov.]. W. Aust. Nat. **3** 1 1951 pp. 14–16 1 fig.

399.—Glick, D., Zak, E. & Korff, R. von. Role of urease in the gastric mucosa. Amer. J. Physiol. **163** 1950 pp. 386–393. [Not seen].

Glissmeyer, H. R., see Woodbury, A. M.

400.—Goddard, D. L. H. Bitten by adder. Brit. med. J. No. 4719 1951 p. 1394.

401.—Goetsch, W. Ergebnisse und Probleme aus dem Gebiet neuer Wirkstoffe. Österr. zool. Z. **3** 1951 pp. 140–174 5 figs.

402.—Goin, C. J. Notes on the eggs and early larvae of three more Florida salamanders. Ann. Carneg. Mus. **32** 1951 pp. 253–262 1 pl.

403.—Goin, C. J. Two new records for *Eleutherodactylus ricordii planirostris* in the Bahama Islands. Herpetologica **7** 1951 p. 200.

404.—Goin, O. B. & C. J. Notes on the natural history of the lizard *Eumeces laticeps*, in northern Florida. Quart. J. Fla. Acad. Sci. **14** 1951 pp. 29–33.

405.—Goldring, W. Handbook of Paleontology for beginners and amateurs. Part I. The fossils. Handb. N.Y. St. Mus. No. 9 1950 pp. 1–594 97 figs.

406.—Goodman, J. D. Some aspects of the role of parasitology in herpetology. Herpetologica **7** 1951 pp. 65–67.

407.—Gorman, J. Northward range extension of the salamander *Triturus sierrae*. Copeia 1951 p. 78.

408.—Grant, C. The specific characters of the Celesti, with the description of a new species of *Celestus* (Sauria, Anguidae). [*C. curtissi*, sp. nov.]. Copeia 1951 pp. 67–69 1 pl.

Grattarola, M., see Guardabassi, A.

Green, E. U., see Briggs, R.

409.—Green, J. D. The comparative anatomy of the hypophysis with special reference to its blood supply and innervation. Amer. J. Anat. **88** 1951 pp. 225–311 10 pls. 16 figs.

410.—Gregg, J. R. & Lovtrup, S. Biochemical gradients in the axolotl gastrula. C.R. Lab. Carlsberg Sér. Chim. **27** 12 1950 pp. 307–324 8 figs.

411.—Gregory, J. T. Convergent Evolution: The Jaws of Hesperomys and the Mosasaurs. Evolution **5** 1951 pp. 345–354.

412.—Gregory, W. K. Evolution Emerging. A survey of changing patterns from primeval life to man. 2 vols. N.Y. 1951 figs.

413.—Greulach, V. A., McKenzie, J. & Stacy, E. M. The effect of maleic hydrazide on the embryonic and larval growth of three amphibians. Biol. Bull. Wood's Hole **101** 1951 pp. 285–288.

414.—Grimm, H. Ein Frosch (*Rana temporaria*?) mit angeborenem Pigmentmangel. Zool. Anz. **146** 1951 pp. 55–56 3 figs.

415.—Grimm, H. Wirkung eines Blastokolius (Cumarin) im Kaulquappenversuch. Biol. Zbl. **70** 1951 pp. 367–372 2 figs.

416.—Grinkrant, C. N. Sobre o pulmão traqueal (accessorio) de *Typhlonectes compressicauda compressicauda* (Gymnophiona). Bol. Fac. Filos. Ciênc. e Letras Univ. São Paulo Zool. No. 14 1949 pp. 267–276 figs. [Not seen].

- 417.—Gropp, A.** Die mitose des *Triton-palmatus*-Keims und ihre Beeinflussung durch Colchicin. Z. mikr-anat. Forsch. **56** 1951 pp. 479–519 16 figs. 1 tab.
- 418.—Gropp, A.** Über die Beeinflussbarkeit der Primitiventwicklung des Fadenmolches *Triton palmatus* durch Colchicin. Z. mikr-anat. Forsch. **57** 1951 pp. 304–323 4 figs.
- Guadabassi, A.**, see Cafiero, M.
- Guala, L.**, see Battaglia, B.
- 419.—Guardabassi, A. & Grattarola, M.** L'aeroporto di un'otocisti in embrioni di *Bufo vulgaris* e *Rana esculenta* e le conseguenti modificazioni del sacco endolinfatico. Monit. zool. ital. **59** Suppl. 1951 pp. 186–189.
- 420.—Guarino, S.** Azione degli anestetici locali sull' effetto del potassio sul sartorio di *Bufo*. Boll. Soc. ital. Biol. sper. **26** 1950 pp. 562–563 1 fig.
- 421.—Guibé, J.** La tortue Grecque (*Testudo graeca* Linne). Terre et la Vie **97** 1950 pp. 128–137 3 figs.
- 422.—Guibé, J.** Fernand Angel, 1881–1950. [Obituary]. Copeia **1951** pp. 1–2 photo.
- Guibé, J.**, see Anthony, J.
- Guibé, J.**, see Millot, J.
- Guidolin, R.**, see Ferri, R. G.
- Guiguet, C. J.**, see Carl, G. C.
- 423.—Gunn, M.** A study of the enteric plexuses in some amphibians. Quart. J. micr. Sci. **92** 1951 pp. 55–77 2 pls. 4 figs.
- 424.—Guyénot, E., Danon, M., Kellenberger, E. & Weiglé, J.** Les chromosomes des ovocytes quiescents de batraciens, étudiés au microscope électronique. Arch. J. Klaus-Stift f. Vererbungsforsch. Sozialanthrop. v. Rassenhyg. Zurich. **25** 1–2 1950 pp. 47–53 5 pls.
- 425.—Haartman, L. von.** Groddjuren på Lemsjöholm efter de kalla vintrarna i början på 1940—talet. Memor. Soc. Fauna Flora fenn. **26** 1951 p. 20.
- 426.—Haas, G.** On the present state of our Knowledge of the herpetofauna of Palestine. Bull. Res. Council Israel **1** 3 1951 pp. 67–95.
- 427.—Haas, G.** Remarks on the status of the lizard *Eremias olivieri* Audouin. Copeia **1951** pp. 274–276.
- 428.—Hackett, C. J.** The medical aspect of venomous snakes [Film]. Trans. R. Soc. trop. Med. Hyg. **44** 1951 p. 369.
- 429.—Hadorn, E.** Experimentell bewirkte Blockierung der histologischen Differenzierung in der Chorda von *Triton*. Arch. EntwMech. Organ. **144** 1951 pp. 491–520 34 figs.
- 430.—Haffner, K. v.** Über die progressive und regressive Entwicklung der Pinealblase (Parietalorgan) des Krallenfrosches. (*Xenopus laevis* Daud.) Verh. dtsh. zool. Ges. **1950** [1951] pp. 93–100 4 figs.
- 431.—Haffner, K. v.** Die Pinealblase (Stirnorgan, Parietalorgan) von *Xenopus laevis* Daud. und ihre Entwicklung, Verlagerung und Degeneration. Zool. Jb. Anat. **71** 1951 pp. 375–412 31 figs.
- 432.—Hahn, P. & Poupa, O.** Antihistamines and thyroxine metamorphosis in tadpoles. Nature, Lond. **166** 1951 p. 84.
- 433.—Hairston, N. G.** Interspecies competition and its probable influence upon the vertical distribution of Appalachian salamanders of the genus *Plethodon*. Ecology **32** 1951 pp. 266–274 2 figs
- Halama, A.**, see Wohlzogen, F. X.
- 434.—Hall, A. B. & Schotté, D. E.** Effects of hypophysectomies upon the initiation of regenerative processes in the limb of *Triturus viridescens*. J. exp. Zool. **118** 1951 pp. 363–387 15 figs.
- 435.—Hall, C. W.** Notes on a small herpetological collection from Guerrero. Univ. Kansas Sci. Bull. **34** 1951 pp. 201–212 1 pl.
- Hall, J.**, see Dalton, H. C.
- 436.—Hama, T.** Explantation of the urodelan organizer and the process of morphological differentiation attendant upon invagination. Proc. Japan Acad. **25** 9 1949 pp. 4–11.
- 437.—Hama, T.** Induction as it is affected by variously paired head and trunk organizers. Annot. zool. jap. **23** 1950 pp. 49–57 5 tabs.

438.—Hama, T. Differences in results obtained by different manner of transplantation of the head organizer. *Annot. zool. jap.* **23** 1950 pp. 191–193 2 tab.

Hama, T., see Okada, Y. K.

439.—Hamilton, A. G. Polymely in a frog. *Nature*, Lond. **166** 1950 pp. 611–612 3 figs.

440.—Hamilton, W. J. Jr. Notes on the food of the Congo eel, *Amphiuma* Nat. Hist. Misc., Chicago No. 62 1950 pp. 1–3.

441.—Hamilton, W. J. Jr. The food and feeding behaviour of the garter snake in New York State. *Amer. midl. Nat.* **46** 1951 pp. 385–390.

442.—Hamilton, W. J. Jr. Notes on the food and reproduction of the Pelee Island water snake, *Natrix sipedon insularum* Conant and Clay. *Canad. Field Nat.* **65** 1951 pp. 64–65 1 table.

443.—Hamlett, G. W. D. Some features of the head segmentation in *Anolis* embryos. [Abstract]. *Anat. Rec.* **109** 2 1951 p. 301.

444.—Hanaoka, K. Differentiation of ova in the testes of tadpoles developed from dehydrated eggs. *Annot. zool. jap.* **23** 1950 pp. 93–97 4 figs.

Hanisch, H., see Krüger, P.

445.—Han-Po Ting. Duration of the tadpole stage of the greenfrog, *Rana clamitans*. *Copeia* **1951** p. 82.

446.—Han-Po Ting. Variation, life history, and taxonomic status of the Fukien Green Pondfrog, *Rana fukienensis* Pope. *Copeia* **1951** pp. 120–126 11 figs. 1 tab.

447.—Han-Po, T. Diploid, androgenetic and gynogenetic haploid development in anuran hybridization. *J. exp. Zool.* **116** 1951 pp. 21–57 61 figs.

448.—Hansborough, L. A. & Denny, D. Distribution of phosphorus p_2 in the embryo and larva of the frog. *Proc. Soc. exp. Biol., N.Y.* **78** 1951 pp. 437–441 11 figs.

Hansen, K., see Thorborg, J. V.

Harders, H., see Zeiger, K.

449.—Harding, D. Effect of bacterial polysaccharide on artificial activation in the frog egg. *Nature*, Lond. **167** 1951 p. 355.

450.—Hardy, F. C. Ruffed grouse nest predation by blacksnake. *Wilson Bull.* **63** 1951 pp. 42–43 photo. [Not seen].

Hardy, G. A., see Carl, G. C.

Harjola, O., see Toivonen, S.

451.—Harris, J. P. Jr. Variations in the vertebrae and pelvis of *Necturus*. *Field & Laboratory* **18** 1950 pp. 85–88. [Not seen].

Harris, M., see Eakin, R. M.

452.—Harrison, T. The edible turtle (*Chelonia mydas*) in Borneo. 1. Breeding season. *Sarawak Mus. J.* **5** 1951 pp. 593–596.

Harrison, W. E., see Ambrus, J. L.

453.—Hartmann-Perdromo, C. W. C. Quantitative reaction of male frog *Rana pipiens* to the action of chorionic gonadotropin. *Rev. Soc. Argent. Biol.* **25** 1949 pp. 146–155. [Not seen].

Hartweg, N., see Glass, B.

454.—Hashimoto, K. & Nukada, H. Studies on the metabolism of the heart of *Rana catesbiana*. *Jap. J. Physiol.* **1** 1950 pp. 332–338 5 figs.

455.—Hawken, J. L. Water system acts as reptile and amphibian trap. *Herpetologica* **7** 1951 pp. 81–83.

456.—Hay, O. Second bibliography and catalogue of the fossil vertebrata of North America. vol. II. *Publ. Carneg. Instn. No. 390* 1930 pp. 1–271.

457.—Hebard, W. B. Observations on Gartersnakes in the Puget Sound Region. The color pattern of *Thamnophis ordinoides*. *Copeia* **1951** pp. 53–54 2 pls. 1 tab.

458.—Hebard, W. B. Notes on the ecology of Gartersnakes in the Puget Sound region. *Herpetologica* **7** 1951 pp. 61–62.

459.—Hebard, W. B. Notes on the life history of the Puget Sound garter-snake, *Thamnophis ordinoides*. *Herpetologica* **7** 1951 pp. 177–179.

Hecht, H., see Woodbury, L. A.

460.—Heilman, R. A. A list of the amphibians and reptiles of Lebanon County, Pennsylvania. Proc. Pa. Acad. Sci. **25** 1951 pp. 44-46.

Helle, W., see Brongersma, L. D.

Hellmich, W., see Schmelchar, D.

461.—Hellmich, W. C. A case of limb regeneration in the Chilean Iguanid *Liolaemus*. Copeia **1951** pp. 241-242 1 fig.

462.—Hellmich, W. C. On ecotypic and autotypic characters, a contribution to the knowledge of the evolution of the genus *Liolaemus* (Iguanidae). Evolution **5** 1951 pp. 359-369 2 figs.

463.—Hemming, F. Zoological nomenclature: Notice of proposed suspension of the rules in certain cases for the avoidance of confusion and the validation of current nomenclatorial practice (A. (n.s.) 10). Science **114** 1951 pp. 673-674.

464.—Henley, C. & Costello, D. P. Heteroploidy in a "natural population" of *Amblystoma punctatum*. J. Morph. **89** 1951 pp. 91-109 18 figs.

Henley, C., see Costello, D. P.

465.—Hennig, E. Vom Stirnauge [On the frontal eye]. Naturwiss. Rundschau **1950** **3** 7 pp. 308-310 illust. [Not seen].

466.—Hennig, W. Grundzüge einer theorie der phylogenetischen systematik. Berlin, Deutschr. Zentralverlag 1950 370 pp. 57 figs. [Not seen].

467.—Henry, C. M. Bibliography from 1925-1928. Spolia zeylan. **26** 1951 p. 281.

468.—Hensley, M. M. Notes on the natural history of *Heloderma suspectum*. Trans. Kansas Acad. Sci. **53** 1950 pp. 268-269.

469.—Hensley, M. M. Results of a herpetological reconnaissance in extreme Southwestern Arizona and adjacent Sonora, with a description of a new subspecies of the Sonoran whipsnake, *Masticophis bilineatus*. Trans. Kansas Acad. Sci. **53** 1950 pp. 270-288 3 figs.

470.—Herklots, G. A. C. Hong Kong Countryside, Hong Kong 1951 pp. 1-184 ill.

471.—Hermann, H., Cier, J. F. & Flandrois, R. Expériences établissant l'organisation hiérarchique du tonus vasomoteur chez la grenouille. C.R. Acad. Sci. Paris **232** 1951 pp. 258-260.

472.—Hernandez, T. & Coulson, R. A. Biochemical studies on the iguana. Proc. Soc. exp. Biol. N.Y. **76** 1951 pp. 175-177 tables.

Hernandez, T., see Coulson, R. A.

473.—Herre, W. Über Beziehungen zwischen Hypophyse und Schilddrüse bei Urodelenlarven. Verh. dtsh. zool. Ges. **1950** [1951] pp. 312-320.

474.—Herre, W. Über Veränderungen Kopfform nach Implantation zusätzlicher Hypophysen in Larven verschiedener Molcharten. Zool. Anz. **146** 1951 pp. 260-275 7 figs.

475.—Herre, W. & Lunau, H. Neue fossile Schwanzlurche aus dem Burdigalium. Neues Jb. Geol. **B 8** 1950 pp. 247-252 Abb. 1-9.

476.—Hertwig, G. Beeinflussung der Keimzellen des Frosches durch Zellkern- und Mitosegifte. Verh. Anat. Ges. Jena **98** 1951 pp. 53-61.

477.—Hescheler, K. & Kuhn, O. Die Tierwelt in Tschumi, O. Urgeschichte der Schweiz. **1** 1949 pp. 121-368 text-figs. 38-146.

Heyrend, F. La Marr., see Woodbury, A. M.

478.—Hiatt, R. M. Marine zoology study of Arno Atoll, Marshall Islands. Scientific investigations in Micronesia. Atoll Res. Bull. Nos. 3-4 1951 pp. 1-13.

479.—Hibbard, C. W. & Riggs, E. S. Upper Pliocene vertebrates from Keefe Canyon, Meade county, Kansas. Bull. Geol. Soc. Amer. **60** 5 1949 pp. 829-860 figs.

Hick, W. B. M., see Cowan, I. McT.

480.—Hickman, C. P. & Vernberg, F. J. Reactions of two closely related species of salamanders to certain environmental factors: a study in comparative behaviour. [Abstract]. Proc. Indiana Acad. Sci. **59** [1951] p. 292.

Highman, B., see Altland, P. D.

481.—Hild, W. Vergleichende Untersuchungen über Neurosekretion in Zwischenhirn von Amphibien und Reptilien. *Z. Anat. EntwGesch.* **115** 1951 pp. 459–479 12 figs.

482.—Hill, R. P. Last of an ancient race. *Discovery* **12** 6 1951 pp. 181–183 5 figs.

483.—Hilton, W. A. Demonstration of the capillary network in auditory and olfactory organs of salamanders. *Turtox News* **28** 11 1950 pp. 216–217 pl. [Not seen].

484.—Hilton, W. A. A nasal gland in plethodontid salamanders. *Copeia* **1951** pp. 75–76 1 fig.

485.—Hilton, W. A. Teeth of salamanders. *Herpetologica* **7** 1951 pp. 133–136 figs.

486.—Hilton, W. A. The olfactory system of tailed Amphibia. *Bull. S. Calif. Acad. Sci.* **50** 1951 pp. 119–127 3 figs.

487.—Hinsche, G. Über experimentelle Paläobiologie. *Paläont. Z.* **23** 1–2 1942 pp. 1–16 text-figs. 1–5.

488.—Hiramoto, Y. Propagation of contraction wave in single muscle fibres I. Electrical stimulation. *Annot. zool. jap.* **23** 1950 pp. 119–124 1 pl. 2 figs.

489.—Hiyama, N. Biochemical studies on carbohydrates. CIV. On the jelly of toad and frog eggs. Third report. Hexosamine in the frog mucine. *Tohoku J. Exp. Med.* **50** 3–4 1949 pp. 385–387, table, from *Phys. Bioch. & Pharmac. Sect. II, Excerpta of Medica* **IV** 1 1951. [Not seen].

490.—Hoch, R. Der afrikanische Dornschwanz (*Uromastix acanthinurus* Bell). *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 20–22 2 figs.

491.—Hochstetter, F. Über die Rückbildung der Ohröffnung und des Äusseren Gehörganges bei der Blind-schleiche (*Anguis fragilis*). *Denks. Öst. Akad. Wiss. math. nat. Kl.* **108** 6 1951 pp. 1–35 4 pls. 2 figs.

Hochwald, L. B., see Allen, B. M.

492.—Hodgkin, A. L. The ionic basis of electrical activity in nerve and muscle. *Biol. Rev.* **26** 1951 pp. 339–409 8 figs.

493.—Hoffman, R. L. A new subspecies of salamander from Virginia. *J. Elisha Mitchell sci. Soc.* **67** 1951 pp. 249–253 1 pl. 1 map.

Hoffman, R. L., see Fowler, J. A.

494.—Hoffmeister, D. F. A technique for collecting lined utas, *Urosaurus ornatus*. *Herpetologica* **7** 1951 p. 146.

495.—Hogben, C. A. M. & Bollman, J. L. Excretion of phosphate by isolated frog kidney: an "adsorption semipermeability" model for maximal tubular transport. *Amer. J. Physiol.* **164** 1951 pp. 662–669 tables [Not seen].

496.—Hoge, A. R. Notas erpetologicas 7. Sobre a ocorrência de *Trimeresurus hyoprora* (Amaral) no Brasil. *Bol. Mus. Paraense Emilio Goeldi* **10** 1949 pp. 325–329. [Not seen].

497.—Hoge, A. R. Notas erpetológica. 7. Fauna erpetológica da Ilha da Queimada Grande. *Mem. Inst. Butantan* **22** 1950 pp. 151–171 7 pls.

498.—Holtfreter, J., Koszalka, T. R. & Miller, L. L. Chromatographic studies of amino acids in the eggs and embryos of various species. *Exper. Cell Res. N.Y.* **1** 1950 pp. 453–459 1 fig. tables.

499.—Holtzer, H. Reconstitution of the urodele spinal cord following unilateral ablation. Pt. 1. Chronology of neuron regulation. *J. exp. Zool.* **117** 1951 pp. 523–557 25 figs. 1 tab.

500.—Homeyer, B. Die Ontogenese cytoarchitektonischer Einheiten im Vorderhirn von *Triturus vulgaris* L. *Zool. Jb. (Allg. Zool.)* **63** 1951 pp. 25–63 35 figs.

501.—Honjo, I. Farbenism der Feuersalamanderlarven. *Mem. Coll. Sci. Kyoto* **15B** 2 1939 207–235 8 figs.

502.—Hopkins, H. S. The influence of quinine upon the respiration of frog's muscle. [Abstract]. *Anat. Rec.* **111** 1951 p. 443.

503.—Hörich, K. Die Geburtshelferkröte. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 215–217 1 fig.

504.—Horstadius, S. The Neural Crest, London (O.U.P.) 1951 pp. ix + 111 46 figs.

505.—Horton, C. W. The near ultraviolet absorption spectrum of *Crotalus* venom. Herpetologica **7** 1951 pp. 173–174 1 fig.

506.—Hotchkiss, N. Reptiles and amphibians. Wildlife Rev. **62** 1951 pp. 46–51. [Not seen].

507.—Houba, J. Různá zbarvení jěsterky obecné (*Lacerta agilis agilis* [L.]) [The variability of *L. a. agilis*]. Akvaristické Listy 1951 23 pp. 15–16.

Houillon, C., see Gallien, L.

508.—Howard, A. D. A river mussel parasitic on a salamander. Nat. Hist. Misc. Chicago No. 77 1951 pp. 1–6 4 figs.

Hudson, W. F., see Bragg, A. N.

509.—Huene, E. von. Studie über die Umwandlung des Landfusses in den Schwimmfuss bei Sauropterygiern und Placodontiern, gezeigt an der Vorderextremität. Neues Jahrb. Mineral. Abhandl. **90** 1 1949 pp. 96–162 illust.

510.—Huene, F. F. von. Die stammesgeschichtliche Gestalt der Wirbeltiere—ein Lebensablauf. Paläont. Z. **22** 1 1941 pp. 55–62 figs. 1–2.

511.—Huene, F. F. von. Ein equatischer Zweig der Pelycosaurier. Paläont. Z. **22** 2 1941 pp. 120–126 pls. 5–8 text-figs. 1–3.

512.—Huene, F. F. v. Die Wirbelstrukturen der Tetrapoden und ihre stammesgeschichtliche Wichtigkeit. Paläont. Z. **23** 1–2 1942 pp. 219–236 text-figs. 1–18.

513.—Huene, F. von. Ein neuer Fund von *Eurhinosaurus longirostris* Neues Jb. Geol. Abh. **93** 2 1951 pp. 277–284 pl. 18 1 text-fig.

514.—Huene, F. von. Das Grundsätzliche des phyletischen Fortschritts bei den Tetrapoden in Ablauf der Zeiten. Neues Jahrb. Mineral. Monats. Abt. B. 1949 (11–12) pp. 341–344 illust. 1949 [1950].

515.—Huene, F. F. von. Eine neue Ichthyosaurier-Gattung der Mittleren Trias. Neues Jb. Geol. Abh. **94** 1 1951 pp. 80–92 text-figs. 1–3 pls. 9–10.

516.—Huene, F. von. Über einen vermutlichen Rhynchocephalen im Muschelkalk. Neues Jb. Geol. Mh. **2** 1951 pp. 62–64 Abb. 1.

517.—Huene, F. von. Der älteste Sauropterygier-Rest. Neues Jb. Geol. Mh. **3** 1951 pp. 86–7 1 text-fig.

518.—Huene, F. F. von. Zwei ausgezeichnet erhaltene Exemplare von *Pterodactylus* in Natur-Museum Senckenberg. Senckenbergiana **32** 1951 pp. 1–7 3 pls.

519.—Hulme, J. H. The “playing possum” habits of the Ringhals cobra. Herpetologica **7** 1951 p. 132.

Humphrey, R. R., see Ponce, K.

520.—Humphries, R. L. The woodfrog in Georgia. Copeia **1951** p. 183.

521.—Hurst, R. O. & Butler, G. C. Chromatographic separation of phosphatases of snake venom. [Abstract]. Fed. Proc. **10** 1 1951 p. 201. [Not seen].

522.—Ichikawa, M. Studies on the double monsters in the newt, *Triturus pyrrhogaster*, with special reference to the origin of their development. Mem. Coll. Sci. Kyoto **17B** 1 1942 pp. 175–226 34 figs.

523.—Ichikawa, M. & Amano, H. Induction of limbs in *Triturus*, with special reference to the origin of their cells. Proc. Japan Acad. **25** 7 1949 pp. 25–30 6 figs.

524.—[Ignatyeva, J. M.] Changes occurring in the structure of the skin after being grafted in the eye of anurian amphibian. C.R. Acad. Sci. URSS. n.s. **81** 4 1951 pp. 701–704 2 figs. [In Russian].

Inger, R. F., see Schmidt, K. P.

Irving, J. T., see Fox, E.

525.—[Isatchenko, Z. F.] Experimental metamorphosis of *Rana temporaria* under the influence of hypophysis of carp and salmon. C.R. Acad. Sci. URSS. n.s. **78** 5 1951 pp. 1053–1055 fig. [In Russian].

526.—Jacquemart, S. Distribution du genre *Triturus* en Haute-Belgique. Bull. Inst. Sci. nat. Belg. **27** 53 1951 pp. 1-7 1 pl. 2 figs.

Jaeger, L., see Barth, L. G.

527.—Jaffee, O. C. The development of the pronephros in the leopard frog (*Rana pipiens*). [Abstract]. Proc. Indiana Acad. Sci. **60** 1951 pp. 310-311.

528.—Janszky, B. The relation between the proteolytic and blood clotting activity of snake venoms. Arch. Biochem. **28** 1 1950 pp. 139-140. [Not seen].

529.—Jeannel, R. Quarante années d'explorations souterraines. Publ. Mus. Hist. nat. Paris No. 14 1950 pp. 1-95 13 figs.

Jeffree, G. M., see Murray, D. S.

530.—Jintetsu, O. Ueber die Wirkung des Giftes gewisser formosanischer Schlangen auf das Schmerzzentrum. J. Med. Ass. Formosa **35** 1936 pp. 2083-2091.

531.—Jintetsu, O. Ueber die Wirkung des Giftes gewisser formosanischer Schlangen auf die motorischen und sensiblen peripheren Nerven. J. Med. Ass. Formosa **35** 1936 pp. 2092-2100.

532.—Johnson, F. H. & Flager, E. A. Activity of narcotized amphibian larvae under hydrostatic pressure. J. cell. comp. Physiol. **37** 1951 pp. 15-25 2 figs.

533.—Johnson, M. L. Support for the proposal submitted by Dr. Karl P. Schmidt and Mr. Roger Conant that the trivial name *sirtalis* Linnaeus, 1758 (as published in the binominal combination *Coluber sirtalis*) (Class Reptilia) should be preserved for use in its existing sense under the plenary powers. Bull. zool. Nom. **2** 1951 p. 352.

534.—Jones, C. K. & H. W. Use of male South American toad in pregnancy test. Amer. J. clin. Path. **20** 1950 pp. 888-891.

Jones, J. H., see Loomis, R. B.

535.—Jones-Burdick, W. H. Guide to the snakes of Colorado (Revised). Univ. Colorado Mus. Leaflet **5** 1949 pp. 1-23 figs. [Not seen].

536.—Jørgensen, C. B. The influence of salt loss on the osmotic regulation in anurans. Acta. Physiol. Scand. Stockholm **20** 1950 pp. 56-61 figs. 1 tables.

537.—Juárez, J. Mecanismo de la regulación del color de la piel del sapo *Bufo arenarum* Hensel. Rev. Soc. argent. Biol. **26** 1950 pp. 269-277 illus. [Not seen].

538.—Juárez, J. Mécanisme de la régulation de la couleur du crapaud *Bufo arenarum* Hensel. C.R. Soc. Biol. Paris **145** 1951 pp. 451-452.

539.—Judd, W. W. The snapping turtle (*Chelydra serpentina* L.) in the Dundas Marsh, Hamilton, Ontario. Canad. Field Nat. **65** 1951 pp. 37-39 table.

Julian, G., see Woodbury, A. M.

540.—Juszyczyk, W. The food of the aquatic frog *Rana esculenta* L. in the natural water reservoirs and in the artificial fish ponds. Bull. int. Acad. Cracovie. Cl. math. nat. **1950** BII 1-3 1951 pp. 31-80 2 pls. graphs.

Kagami, T., see Kato, T.

541.—Kahmann, H. Über die Haltung und Fortpflanzung des Krallenfrosches, *Xenopus laevis*, im Freiland. Deutsche Aquar. Terr. Z. **2** 4 1949 pp. 72-76 figs. [Not seen].

542.—Kalelan, O. Helsingin Yliopiston Eläintieteellisen museon yleisen osaston kokoelmien kasvu vv. 1950-1951. Memor. Soc. Fauna Flora fenn. **27** 1951 pp. 198-202.

543.—Kälin, J. & Keller, R. Über den Ossifikationsprozess des Skelettes bei *Siredon mexicanus* Shaw. Bull. Soc. fribourg. Sci. nat. **37** 1946 pp. 163-176 3 pls. figs.

544.—Källén, B. Some remarks on the ontogeny of the telencephalon in some lower vertebrates. Acta Anat. **11** 1951 pp. 537-548 6 figs.

545.—Källén, B. Contributions to the knowledge of the medial wall of the reptilian forebrain. Acta Anat. **13** 1951 pp. 90-100 10 figs.

546.—Kamel, A. H. Sacral ribs of Lacertilia. Nature, Lond. **168** 1951 pp. 660-661 3 figs.

547.—[Kamnev, I. E.]. Some substantial and functional changes in skeleton musculature occurring under influence of various experimental factors. *Memor. Vol. A. A. Zavarzin Acad. Sci. URSS.* 1948 pp. 493–507 4 figs. [In Russian].

548.—Kantner, M. Der Einfluss des Colchicins auf die Zellteilung lebender Amphibien. *Z. Anat. Entw. Gesch. Berlin* **115** 1950 pp. 273–286 5 figs. tables.

549.—Karczmar, A. G. & Berg, G. G. Alkaline phosphatase during limb development and regeneration of *Amblystoma opacum* and *Amblystoma punctatum*. *J. exp. Zool.* **117** 1951 pp. 139–163 2 pls. 2 figs. 3 tabs.

Karczmar, A. G., see Sandow, A.

550.—[Kashtchenko, L. A.]. Action of the radiant energy on gonadotropic factor in the anterior portion of hypophysis. *C.R. Acad. Sci. URSS. n.s.* **77** 1 1951 pp. 157–160. [In Russian].

551.—Kashyap, H. V. The structure of the heart of *Riopa guentheri* (Peters) (Reptilia : Sauria). *J. zool. Soc. India* **3** 1951 pp. 31–40 6 figs.

552.—Kasturirangen, L. R. Placentation in the sea-snake, *Enhydrina schistosa* (Daudin). *Proc. Indian Acad. Sci.* **34B** 1 1951 pp. 1–32 2 pls. 12 figs.

553.—Kato, T. & Kagami, T. On the mesencephalic trigeminal root cells in the brain of *Megalobatrachus japonicus*. *Okajimas Folia Anatomica Japonica* **23** 4–5 1951 pp. 265–271. [Not seen].

554.—Kawamura, T. Reproductive ability of triploid newts, with remarks on their offspring. *J. Sci. Hiroshima Univ. (Zool.)* **12** 1951 pp. 1–10 21 figs. 2 tabs.

555.—Kawamura, T. The offspring of triploid males of the frog, *Rana nigromaculata*. *J. Sci. Hiroshima Univ. (Zool.)* **12** 1951 pp. 11–20 5 figs. 7 tabs.

556.—Kawamura, T. & Miyada, S. Diploid-tetraploid mosaics in the frog, *Rana nigromaculata*. *J. Sci. Hiroshima Univ. (Zool.)* **12** 1951 pp. 21–33 2 pls. 2 figs. 1 tab.

557.—Kayser, C. H. Le probleme de la loi des tailles et de la loi des surfaces tel ouil apparait dans leetude de la calorification des batraciens et reptiles et des mammiferes hibernants. *Arch. Sci. Physiol.* **4** 4 1950 pp. 361–378 figs tables. [Not seen].

558.—Kayser, C. Les échanges respiratoires de quelques espèces de reptiles entre 10° et 2°. *C.R. Soc. Biol. Paris* **145** 1951 pp. 745–747.

Kearney, E. B., see Singer, T. P.

Kellenberger, E., see Guyenot, E.

Keller, R., see Kälin, J.

559.—Kemp, N. E. Development of intestinal coiling in anuran larvae. *J. exp. Zool.* **116** 1951 pp. 259–287 32 figs.

560.—Kemp, N. E. & Gamero-Reyes, A. Temporary immobilization of salamander larvae by means of electric shock. *Science* **113** 1951 pp. 722–723 1 fig.

561.—Kemp, N. E. & Quinn, B. L. Differentiation of *Amblystoma* larvae after extirpation of heart. [Abstract]. *Anat. Rec.* **111** 1951 pp. 543–544.

Kennedy, J. P., see Smith, H. M.

Kent, D. E., see Costello, D. P.

Khalil, A., see El-Toubi, M. R.

Khalil, F., see Fouad Khalil.

King, T. S., see Davies, F.

King, T. T., see Briggs, R.

Kinghorn, J. R., see MacInnes, I. G.

562.—Kiortsis, V. Ablation du territoire crête et régénération provoquée dans le tissu cicatriciel provenant de la patte. *Rev. suisse Zool.* **58** 1951 pp. 553–570 1 pl. 6 figs.

563.—Kirchner, H. Versteinerte Reptil-Fährten als Grundlage für den Drachenkampf in einem Heldenleid. *Z. dtsch. geol. Ges.* **93** 6 1941 pp. 309–314 text-figs. la-c.

564.—Kirk, H. D. Chameleon caprices. *African Wild Life* **5** 1951 pp. 129–131 6 figs.

565.—[Kiro, C. M.]. Comparative histology of mesencephalon in Amphibians. *Memor. Vol. A. A. Zavarzin Acad. Sci. URSS.* 1948 pp. 54–80 16 figs. [In Russian].

Kirkpatrick, G. E., see Walker, L. W.

566.—Klauber, L. M. The shovel-nosed snake, *Chionactis* with descriptions of two new subspecies. Trans. S. Diego Soc. nat. Hist. **11** 9 1951 pp. 141–204 2 pls.

567.—Klauber, L. M. Proposed use of the plenary powers to determine the species to which the trivial name "*sirtalis*" Linnaeus, 1758 (as published in the binominal combination "*Coluber sirtalis*") (Class Reptilia) is to be applied: support for application submitted by Dr. Karl P. Schmidt and Mr. Roger Conant. Bull. zool. Nom. **2** 1951 p. 351.

568.—Klauber, L. M. On the question of the correct trivial name for the Yellow or Midget Rattlesnake of the Colorado River Basin. Bull. zool. Nom. **6** 1951 p. 101.

Klein, D., see Schopf, C.

569.—Klein, T. Notes on the feeding habits of *Crotophytus reticulatus*. Herpetologica **7** 1951 p. 200.

570.—Klein, T. A new method of collecting *Holbrookia texana*. Herpetologica **7** 1951 p. 200.

571.—Klimstra, W. D. Notes on late summer snapping turtle movements. Herpetologica **7** 1951 p. 140.

572.—Klinghardt, F. Beobachtungen an Flugsaurien. Paläont. Z. **23** 1–2 1942 pp. 250–258 pls. 14–16 text-fig. 1.

573.—Klobusitzky, D. de. Principios coagulantes e anti-coagulantes nos venenos de serpentes. Dusenía **1** 1950 pp. 11–26. [English summary].

574.—Klopper, P. J. Pupil dilation caused by stimulation of sensory nerves in frogs. Acta physiol. pharm. Neerl. **2** 1 1951 pp. 13–18 2 figs.

575.—Knepton, Jr., J. C. Reproduction by a King snake *Lampropeltis getulus getulus*, Linnaeus. Herpetologica **7** 1951 pp. 85–89.

Koerdell, M. Maldonado, see Maldonado.

Kooij, J. S., see Cate, G. Ten.

Korff, R. von., see Glick, D.

576.—Kosswig, C. Herpetologisches aus der Türkei. Mitt. Mus. Naturk. Magdeb. **3** 3 1951 pp. 13–23 2 pls.

577.—Koster, W. J. The distribution of the Gila Monster in New Mexico. Herpetologica **7** 1951 pp. 97–101 chart.

Koszalka, T. R., see Holtfreter, J.

Kraemer, D. W., see Thornton, C. S.

578.—Kramer, K. Body proportions of mainland and island lizards. Evolution **5** 1951 pp. 193–206 9 figs.

579.—Krefft, G. Beiträge zur Kenntnis der kanarischen Echtenfauna. Zool. Anz. **145** Ergänzungsb. 1950 pp. 426–444.

580.—Krefft, G. *Deirochelys reticularia* (Latreille), eine wenig bekannte Schmuckschildkröte der USA. Aquar. Terrar. Z. Stuttgart **4** 1951 1 fig.

Krefft, P. see Mertens, R.

581.—Krieg, H. Als Zoologe in Steppen und Wäldern Patagoniens. 2 Aufl. München (Bayerischer Landwirtschaftsverlag) 1951 pp. 194 41 pls. (4 col.) text illust.

Kripalani, M. B., see Acharji, M. N.

582.—Krishnamurthy, D. R. Angling for crocodiles with hook and line in Krishnarajasagar reservoir. J. Bombay nat. Hist. Soc. **50** 1951 pp. 181–182.

Krishnan Nayar, K., see Ganapati, R. N.

583.—Krugelis, E. J. Properties and changes of alkaline phosphatase activity during amphibian development. C.R. Lab. Carlsberg Ser. Chim. **27** 10 1950 pp. 273–290.

584.—Krüger, P. & Hanisch, H. Spannungsmessungen der Acetylcholin-contraktion bei tetanischen und tonischen Skelettmuskeln der Anuren. Z. Biol. München **103** 2 1950 pp. 127–138 3 figs. tables.

585.—Kruise, I. & Dam, H. Inactivation of thromboplastin by cobra venom. Biochim. Biophys. Acta, N.Y. 1950 **5** 2 pp. 268–274 figs. tables.

Kudokotzev, V. P., see Umanski, E. E.

Kuhn, O., see Hescheler, K.

586.—Kupka, E. Veränderungen der Kerngrößen bei Molchlarven nach Amputation und Narkose. [English summary]. *Experientia* **7** 1951 pp. 181–182.

587.—Kusa, M. Osmotic homeostasis in development of the salamander. *Hynobius retardatus*. J. Fac. Sci. Hokkaido Univ. (Zool.) **10** 1951 pp. 151–156.

Kutsky, P. B., see Eakin, R. M.

588.—Kuusi, T. Über die chemische Natur der Induktionsstoffe im Implantatversuch bei *Triton*. *Experientia* **7** 1951 pp. 299–300.

589.—Kuusi, T. Über die Chemische natur und induktionsstoffe Mit besonderer berücksichtigung der Rolle der Proteine und der Nukleinsäuren. *Ann. Zool. Soc. Vanamo* **14** 1951 pp. 1–98 81 figs.

590.—Kyu, K. Über die Wirkungen der Gifte der Crotalinae Formosa's. *Jap. Journ. Med. Sci.* **X** 2 IV Pharmacology 1937 pp. 99–127.

591.—La Ham, Q., & O'Brien, J. P. Radiosensitivity of larval urodeles in relation to overall metabolic rate obtaining at the time of exposure. [Abstract]. *Anat. Rec.* **111** 1951 pp. 495–496.

592.—Lallier, R. Contribution a l'étude de l'action du lithium sur les embryons d'amphibiens. *Bull. Soc. Chim. biol. Paris* **32** 7–8 1950 pp. 451–457.

593.—Lallier, R. Recherches sur le rôle des groupe sulphydoiles dans la morphogénese. II. Effet de quelques agents oxydants et réducteurs sur le developpement d'explantats dorsaux et ventraux de jeunes gastrulas d'amphibiens. *Bull. Soc. Chim. biol.* **33** 5–6 1951 pp. 439–446.

594.—Lang, H. Grundsätzliches über die Amphibienpflege. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 19–20.

595.—Lang, H. Der Laubfrosch *Hyla arborea* (Linné). *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 102–103.

596.—Lang, H. Zwei Salamander aus Nordamerika. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 269–270 2 figs.

597.—Lang, J. Metamorfosa larev mloka zemricho (*Salamandra salamandra* L.) v zajeti. [Metamorphosis of larvae of *S. salamandra*]. *Akvaristické Listy* **23** 1951 pp. 22–23 fig.

598.—Lang, J. Lihnuti larev *Ambystoma mexicanum*. [The hatching of *Ambystoma*]. *Akvaristické Listy* **23** 1951 pp. 115–116.

599.—Lang, W. D. Report on Dorset natural history for 1950 (except birds and lepidoptera). *Proc. Dorset nat. Hist. Archaeol. Soc.* **72** 1951 pp. 129–134.

Langebartel, D. A., see Smith, H. M.

Langemann, H., see Fischer, H.

600.—Langevoort, H. L. Physiologische lekkage van liquor cerebrospinalis bij embryonen van sauropsiden. *Nederl. Tijdschr. Genesk.* **3** 29 1950 pp. 2151–2153. [Not seen].

601.—Lanza, B. Sensibilità del testicolo di *Rana esculenta* L. alla gonadotrofina corionica squibb (follutein) nel mese di giugno. *Bol. Soc. ital. Biol. sper.* **25** 1949 pp. 1076–1078.

602.—Lanza, B. Su la eiaculazione provocata nei tritoni (*Amphibia caudata*) da iniezioni di gonadotrofine. *Boll. Soc. ital. Biol. sper.* **25** 1949 pp. 1378–1380.

603.—Lanza, B. Su un nuovo effetto biologico dell' adrenalina e considerazion sul determinismo di un carattere sessuale maschile dei tritoni. *Boll. Soc. ital. Biol. sper.* **26** 1950 pp. 836–838.

Lanza, B., see Galgano, M.

604.—Lapicque, L. & M. Aptitude au galvanotonus dans les nerfs moteurs de batraciens sous l'influence de certaines actions experimentales. *C.R. Soc. Biol. Paris* **145** 1951 pp. 947–950.

605.—Lapparent, A. F. de. Présence d'un Dinosaurien sauropode dans l'Albien du Pays de Bray. *Ann. Soc. géol. Nord, Lille* **66** 1947 pp. 236–243 pl. 4.

606.—Lapparent, A. F. de. Découverte de dinosauriens, associés à une faune des reptiles et de poissons, dans le Crétace inférieur de l'extrême Sud tunisien. C.R. Acad. Sci. Paris **232** 1951 pp. 1430–1432.

607.—Lapparent, A. F. de & Zbyszewski, G. Découverte d'une riche faune de reptiles dinosauriens dans le Jurassique supérieur du Portugal. C.R. Acad. Sci. Paris **233** 1951 pp. 1125–1127.

608.—Lasagna, L. Detection of norepinephrine in the parotid gland secretion of *Bufo agui*. Proc. Soc. exper. Biol. N.Y. **78** 1951 pp. 876–878.

609.—Lasfargues, E. & Fine-Lasfargues, J. di. Action du venin de *Vipera aspis* sur la morphologie des firsblastes d'embryon de poulet cultivés *in vitro*. Ann. Inst. Pasteur Paris **81** 1951 pp. 642–647 3 figs.

610.—Lasfargues, E. & Fine-Lasfargues, J. di. Action du venin de *Vipera aspis* sur la croissance de tissus cultivés *in vitro*. C.R. Soc. Biol. Paris **145** 1951 pp. 683–685.

Latisheva, N. P., see Stehlikunov, S. J.

611.—Laurent, R. Remarques á propos des genres *Dipsadoboa* Gunther et *Crotaphopeltis* Fitzinger. Rev. Zool. Bot. afr. **44** 1951 pp. 210–212.

612.—Laurent, R. Deux reptiles et onze batraciens nouveaux d'Afrique centrale. Rev. Zool. Bot. afr. **44** 1951 pp. 360–381.

613.—Laurent, P. Sur la nécessité de supprimer la famille des Rhacophoridae mais de créer celle des Hyperoliidae. Rev. Zool. Bot. afr. **45** 1951 pp. 116–122.

614.—Lavocat, R. Découverte de restes d'un grand dinosaurien sauro-pode dans le crétacé du Sud marocain. C.R. Acad. Sci. Paris **232** 1951 pp. 169–170.

615.—Lawas, I. The influence of chorionic gonadotropin on the release of spermatozoa by the common male Philippine *Rana vittigera*. Acta med. philipp. **5** 2 1948 pp. 9–16 4 pls.

616.—Leão, A. T. Sobre dois batráquios da Ilha dos Alcatrazes. Mem. Inst. Butantan **22** 1950 pp. 63–73 3 pls.

617.—Leão, A. T. Sobre dois batráquios da Ilha da Queimada Grande. Mem. Inst. Butantan **22** 1950 pp. 139–149 3 pls.

618.—Le Buff, Jr., C. R. The habits of young smooth green snakes (*Ophedrys vernalis*) in captivity. Herpetologica **7** 1951 p. 80.

619.—Lecamp, M. Sur les limites du pouvoir de régénération chez le Crapaud accoucheur. C.R. Acad. Sci. Paris **230** 1950 pp. 1110–1112 figs.

620.—Lecamp, M. Rôle de l'épiderme d'un territoire de régénération chez un têtard d'anoures, *Alytes obstetricans*. C.R. Acad. Sci. Paris **232** 1951 pp. 892–893.

621.—Lecamp, M. Sur les possibilités de régénération chez le Crapaud accoucheur. C.R. Acad. Sci. Paris **233** 1951 pp. 1681–1683 3 figs.

622.—Lecomte, J. Action des sulfamidés et des antibiotique sur le muscle strié de grenouille. Arch. int. Physiol. Liège **56** 1949 pp. 311–326 figs.

Lecomte, J., see Fischer, P.

623.—Lederer, G. Die Vipernatter, *Natrix maura* (L.). Zool. Garten [Leipzig] **16** 1950 pp. 74–93 illus. [Not seen].

624.—Lee, Chen-Yuan. Toxicological studies on the venom of *Vipera russellii formosensis* Maki. J. Formosan Med. Ass. **47** 4 1948 pp. 65–84.

625.—Lehmann, F. E. Die Wirkung antimotischer Stoffe auf das Ei von Tubifex und dem regenerierenden Schwanz der Xenopuslarve. Exper. Cell Res. N. Y. Suppl. No. 1 1949 pp. 156–159 1 table.

626.—Lehman, H. E. An analysis of the dynamic factors responsible for the phenomenon of pigment suppression in salamander larvae. Biol. Bull. Wood's Hole **100** 1951 pp. 127–152 7 pls.

627.—Leigh, C. Egg-laying by a Python in captivity. J. Bombay nat. Hist. Soc. **50** 1951 p. 183.

Lemon, J. McW., see Tressler, D. K.

628.—Lester, J. W. What is the history of Giant Tortoises and how long do they live? Zoo Life **6** 1951 pp. 82–85 4 figs.

- 629.—Leutscher, A.** The marsh frog. *Countryside N.S.* **16** 1 1951 pp. 20–22.
- 630.—Leutscher, A.** The British amphibia. *Discovery* **12** 5 1951 pp. 155–159 8 figs.
- 631.—Levey, S. & Putnam, E.** A method of detoxifying urine in frog test for pregnancy. *Amer. J. clin. Path.* **21** 2 1951 p. 197.
- Levinsky, N. G.,** see Sawyer, W. H.
- Lewis, C. B.,** see Campbell, I. G.
- 632.—Lewis, T. H.** The biology of *Leiopisma laterale* (Say). *Amer. Midl. Nat.* **45** 1951 pp. 232–240 2 figs.
- 633.—Lewis, T. H.** Dark coloration in the reptiles of the Malpais of the Mexican Border. *Copeia* **1951** pp. 311–312.
- 634.—Li, H. M. & Chang, H. C.** On the release of spermatozoa in male frogs with adrenaline. *Chinese J. Physiol.* **17** 1949 pp. 201–206 fig. [Not seen].
- 635.—Li, M. H.** The effect of pregnancy urine on the male frog *Rana nigromaculata*; a rapid test for pregnancy. *Chinese J. Physiol.* **17** 2 1949 pp. 177–188. [Not seen].
- 636.—Li, T. H.** A note on the repetitive discharges of eserinated motor nerve endings in cold acclimatized toads. *Chinese J. Physiol.* **17** 1949 pp. 35–38 fig. [Not seen].
- Lieb, J. R.,** see Wilber, C. G.
- 637.—Liebus, A.** Krododibrete aus den Terträren Tonen von Preschen. *Lotos* **84** 1937 pp. 94–97 1 pl.
- 638.—Liedke, K. B.** Lens competence in *Amblystoma punctatum*. *J. exp. Zool.* **117** 1951 pp. 573–591 10 figs. 2 tabs.
- 639.—Lierath, W.** Schreck-u. Schutzstellungen aus der Lurchfamilie. *Aquar. Terrar. Z. Stuttgart* **4** 1951 p. 136 2 figs.
- 640.—Link, G.** Records of the coral snake, *Micrurus fulvius*, in Indiana and Ohio. *Nat. Hist. Misc. No.* **92** 1951 pp. 1–5.
- 641.—List, J. C.** The ornate box turtle. *Terrapene ornata* (Agassiz) in Indiana. *Amer. Midl. Nat.* **45** 1951 p. 508.
- List, J. C.,** see Smith, H. M.
- 642.—Liu, Y. M.** Does iodacetamide delay the anoxic depolarisation of frog nerve? *Chinese J. Physiol.* **17** 3 1950 pp. 225–230 figs. [Not seen].
- 643.—Livezey, R. L.** *Natrix rigida* from Tyler County, Texas. *Herpetologica* **7** 1951 p. 60.
- 644.—Llambes, J. J. & Garcia, M. J.** Aparicion espontanea de tumores multiples en la *Rana catesbeana*. *Rev. Med. Cubana* **60** 1 1949 pp. 26–32 figs. [Not seen].
- 645.—Loch, J. H.** Notes on the Perak river turtle. *Malayan Nature J.* **5** 1951 pp. 157–160 2 pls.
- 646.—Lodenwiyks, J. M.** Onderzoekingen over mogelijke corzaken van Neotenie. *Lekkerkerk date?* 92 pp. figs.
- Löffler, H.,** see Wettstein, O.
- 647.—Loomis, R. B.** Increased rate of ecdysis in *Crotalus*, caused by chiggers damaging a facial pit. *Herpetologica* **7** 1951 pp. 83–84.
- 648.—Loomis, R. B. & Jones, J. K.** Distribution and variation of the Black-Headed Snake in Nebraska. *Copeia* **1951** p. 242.
- 649.—Loomis, R. B. & Webb, O. L.** *Eurycea multiplicata* collected at the restricted type locality. *Herpetologica* **7** 1951 pp. 141–142.
- 650.—Loubière, R.** Action mélanisante d'un frénateur de la glande pituitaire (H.365) sur les têtards de *Rana dalmatina*. *C.R. Soc. Biol. Paris* **145** 1951 pp. 1687–1688.
- 651.—Loveridge, A.** A new gecko of the genus *Gymnodactylus* from Serpent Island. [*G. serpensinsula*, **sp. nov.**]. *Proc. biol. Soc. Wash.* **64** 1951 pp. 91–92.
- 652.—Loveridge, A.** On reptiles and amphibians from Tanganyika Territory collected by C. J. P. Ionides. *Bull. Mus. comp. Zool. Harvard* **106** 1951 pp. 175–204 1 fig.
- 653.—Loveridge, A.** Synopsis of the African Green Snakes (*Philothamnus* inc. *Chlorophis*) with the description of a new form. *Bull. Mus. Hist. nat. Belg.* **27** 37 1951 pp. 1–12.

654.—**Loveridge, A.** Ecological studies on the vanishing vertebrate fauna of rain forest remnants in tropical East Africa. [Nyasaland]. Yearb. Amer. Phil. Soc. **1951** pp. 161–162.

655.—**Loveridge, A.** Proposed use of the plenary powers to suppress the trivial name "*caesius*" Cloquet, 1818 (as published in the binominal combination "*Coluber caesius*") (Class Reptilia Order Squamata). Bull. Zool. Nom. **6** 1951 pp. 88–89.

Lovtrup, S., see Gregg, J. R.

656.—**Lowe, C. H. Jr. & Norris, K. N.** Aggressive behavior in male sidewinders, *Crotalus cerastes*, with a discussion of aggressive behavior and territoriality in snakes. Nat. Hist. Misc. Chicago No. 66 1950 pp. 1–13.

657.—**Lowe, C. H. Jr. & Zweifel, R. G.** Sympatric populations of *Batrachoseps attenuatus* and *Batrachoseps pacificus* in south California. Bull. S. Calif. Acad. Sci. **50** 1951 pp. 128–135 3 figs.

Lowe, C. H., see Norris, K. S.

Lowe, Jr., C. H. see Stebbins, R. C.

658.—**Lubinska, L. & Olekiewicz, M.** The rate of regeneration of amphibian peripheral nerves at different temperatures. Acta Biol. Exp. **15** 1950 pp. 125–145. [Not seen].

Lunau, H., see Herre, W.

659.—**Lundelius, E.** Note on a neural spine of a Permian armored amphibian. Bull. Geol. Soc. Amer. **1949** **60** 12 p. 1906. [Abstract].

660.—**Lutz, B.** Anfíbios anuros da coleção Adolpho Lutz do Instituto Oswaldo Cruz. IV. Formas aliadas às *Hylas* verdes da Região Leste-Meridional Adendo à Parte II. Frogs in the Adolpho Lutz collection at the Instituto Oswaldo Cruz IV. Species allied to the green hylas from S.E. Brazil. Mem. Inst. Osw. Cruz. **47** 1951 pp. 303–335 3 pls. 3 figs. [English translation].

661.—**Lutz, B.** Anfíbios anuros da coleção Adolpho Lutz VI. *Physalaemus maculiventris* (Lutz) 1925. Mem. Inst. Osw. Cruz **49** 1951 pp. 669–683 2 pls. 2 figs. [English translation].

662.—**Lutz, B.** Nota prévia sobre alguns anfíbios anuros do alto Itatiaia. Hospital, Rio de J. **39** 5 1951 pp. 705–707.

663.—**Lyman, V. A.** More notes on iguanas. Herpetologica **7** 1951 p. 72.

McCallion, J., see Werler, J. E.

664.—**McCarthy, E. G. & Soucy, L. B.** Technic and clinical value of the frog and toad. Medical Rec. **163** 11 1950 pp. 270–274. [Not seen].

McCashland, B. W., see Spilker, C. W.

665.—**McDowell, A.** Bull snake active in December. Herpetologica **7** 1951 p. 142.

666.—**Macher, E.** Die Verteilung der Phosphatase in der Froschnetzhaut bei verschiedener Belichtung. Verh. anat. Ges. Jena **97** (1950) 1951 pp. 120–123.

667.—**MacInnes, I. G.** Australian Fisheries. A handbook prepared for the second meeting of the Indo-Pacific Council, Sydney, April 1950. Sydney (Halstead Press) [1951] pp. 103 6 pls. 1 map 6 figs.

McKenzie, J., see Greulach, V. A.

668.—**Magalhães Mateus, A. de.** Chromosomes spermatogoniaux de *Chioglossa lusitanica* Boc. Bol. Ass. Filos. nat. **2** 8 1946 pp. 39–41 1 pl.

669.—**Maillet, M.** L'innervation sympathique du rein chez *Rana esculenta*. C.R. Soc. Biol. Paris **145** 1951 pp. 1467–1468.

Maitre, S. R., see Sarkar, N. K.

670.—**Malcolm, J. L.** Synaptic transmission in an amphibian ganglion. Journ. Physiol. **159** 1949 pp. 233–238. [Not seen].

671.—**Malcolm, J. L.** Synaptic transmission in the superior cervical ganglion of the toad (*Bufo marinus*). Arch. Sci. Physiol. **111** 1949 p. 469. [Not seen].

672.—**Maldonado Koerdell, M.** Nota preliminar sobre una fauna subfósil de pagueños vertebrados en un antiguo delta de la región de Zumpango, Mex. Rev. Soc. Mex. Hist. nat. **8** 1–4 1947 (1948) pp. 243–250 illus.

673.—Maldonado-Koerdell, M. Notas anfibiologicas, IV. Urodelos de la coleccion de anfibios y reptiles de la Universidad de Ottawa, Kansas, EE. UU. *Rev. Soc. Mex. Hist. nat.* **11** 1950 pp. 217–222.

674.—Manaças, S. Batráquios aglossos da Guiné Portuguesa. *Ann. Jta Miss. geogr. Lisboa* **2** 3 1947 pp. 63–69 1 pl.

675.—Manaças, S. Batráquios Aglossus da Guiné Portuguesa. *Trab. 2a Conf. int. Afr. occid. Bissau* **3** 2 1947 1951 pp. 287–290.

676.—Manaças, S. Batráquios faneroglossos da Guiné Portuguesa. *Ann. Jta. Invest. colon. Lisboa* **4** 1949 pp. 143–164 1 pl.

677.—Manaças, S. Batráquios de Moçambique. *Ann. Jta. Invest. colon., Lisboa* **5** 6 fasc. 1 1950 pp. 181–197.

678. Manguin, E. in **Lenoble, A.** Les dépôts lacustres pliocenes-pleistocenes de l'Ankaratra (Madagascar) : Etude geologique. *Madagascar Serv. Mines Ann-Geol.* 1949 **18** pp. 9–82 illus.

679.—Mann, F. G. Esquema ecologico de Selva, Sabana y Cordillera en Bolivia. *Publ. Inst. geogr. Univ. Chile* No. 3 1951 pp. 1–236 66 pls. figs.

680.—Mann, R., Brickson, W. N. & Thompson, D. H. Songs of frogs and toads. *Nature Bull.* No. 262 1951. [Not seen].

681.—Manville, R. H. A small island community in Midsummer. *Ecology* **32** 1951 pp. 608–617 4 figs.

682.—Marceau, F. Réflexes vaso-moteurs accomplis en dehors de l'intervention des centres bulbo-médullaires chez la grenouille. *Bull. Soc. Hist. nat. Doubs* **51** 1947 pp. 104–108.

683.—Marceau, F. Contribution à l'étude de l'action du système nerveux sur la circulation arterielle chez les vertébrés inférieurs. *Bull. Soc. Hist. nat. Doubs* No. 54 1951 pp. 29–31.

684.—Marcuzzi, G. Breves apuntes sobre algunos lagartos de Venezuela septentrional. *Mem. Soc. Cienc.-nat. La Salle* **10** 26 1950 pp. 73–110 8 figs.

685.—Marcuzzi, G. Osservazioni sulla sistematica e vareabilita di alcune specie di Lucertole (Rept., Lacertilia) del Venezuela. [English summary]. *Arch. zool. Torino* **36** 1951 pp. 17–56 3 figs.

686.—Marshall, J. T. Jr. Vertebrate ecology of Arno Atoll. Marshall Islands, Scientific investigations in Micronesia. *Atoll Res. Bull.* Nos. 3–4 1951 2nd pag. pp. 1–38 4 pls.

687.—Marsigeia, A. G. New county records for the slimy salamander in Maryland. *Maryland Nat.* **20** 3 1950 pp. 57–59 1 fig. 1 map.

688.—Martini, V. & Ricci, C. Il contenuto in DPN delle larve di anfi anuri durante l'accrescimento e la metamorfosi. *Boll. Soc. ital. Biol. sper.* **26** 1950 pp. 1130–1131.

689.—Martirani, I. & Azevedo, M. P. Acção proteolítica do veneno da *Bothrops jararaca* (Wied). II. Acção sobre a gelatina. [English summary]. *Mem. Inst. Butantan* **22** 1950 pp. 47–61.

Martirani, I., see Azevedo, M. P.

690.—[Martzinkevitch, L. D.]. Comparative-histological investigation of structure and development of dentine in some lizards. *C.R. Acad. Sci. URSS n.s.* **77** 1 1951 pp. 113–115 figs. [In Russian].

691.—Maslin, T. P. The production of sound in caudate amphibia. *Univ. Colorado Stud. Ser. Biol.* **1** 1950 pp. 29–48. [Not seen].

Mateus, A. de M., see Magalhães Mateus.

692.—Matthews, S. A. & Ash, F. The effect of parrot fish thyroid gland on metamorphosis in frog tadpoles. *Biol. Bull. Wood's Hole* **101** 1951 pp. 157–161 2 figs.

693.—Matthey, R. The chromosomes of the vertebrates. *Adv. Genet.* N.Y. **4** 1951 pp. 159–180.

694.—Mazzella, H. Sobre la contractilidad del músculo liso del pulmón de batracios anuros (Nota preliminar). *Arch. Soc. Biol. Montevideo* **17** 3–4 1951 pp. 135–138 2 figs. [English summary].

695.—Mazzi, V. Researches on the experimentally provoked ovulation in Amphibia. Arch. Ital. Anat. Embr. **56** 1951 pp. 393–408. [Not seen].

Mazzi, V., see Galgano, M.

696.—Meanley, B. Carpenter frog, *Rana virgatipes*, on the coastal plain of Maryland. Proc. biol. Soc. Wash. **64** 1951 p. 59.

697.—Meanley, B. *Eumeces laticeps* (Schneider) in the Alleghanian zone of Maryland. Proc. biol. Soc. Wash. **64** 1951 pp. 59–60.

698.—Meanley, B. *Natrix erythrogaster* in the Austro-Asian zone of Maryland. Proc. biol. Soc. Wash. **64** 1951 p. 60.

699.—Mehrtens, J. M. Saurophagous Box Turtle. Herpetologica **7** 1951 p. 101.

700.—Mehrtens, J. M. A further note on head bobbing in snakes. [*Elaphe o. quadrivittata*]. Herpetologica **7** 1951 p. 131.

701.—Menges, G. Imwieweit kommen Kriechtiere und Lurche als Fischschädlinge in Frage? Allg. Fischerei-Zeitung **75** 18 1950 pp. 446–447. [Not seen].

702.—Menges, G. Und er quitscht doch! Von der Stimme des Feuersalamanders. Beitr. Naturk. Niedersachs. **4** 3 1951 pp. 73–78.

703.—Menner, E. Über den Feinbau der Aussenglieder der Sehzellen der Wirbeltieren. Verh. dtsch. zool. Ges. **1950** [1951] pp. 124–139 13 figs.

704.—Menu, H. Note sur les reptiles et amphibiens de la région rémoise. Bull. Union Soc. franç. Hist. nat. No. 6 1951 pp. 68–72.

705.—Mertens, R. Dr. Paul Krefft, ein Förderer der Herpetologie. Deuts. Aquar. Terrar. **2** 3 1949 pp. 59–60 photo.

706.—Mertens, R. Der Schädel von *Varanus salvadorii*. Zool. Anz. **145** Ergänzungs. 1950 pp. 561–566 6 figs.

707.—Mertens, R. Bemerkungen über den Stachelschwanz-Leguan in Gefangenschaft. Natur u. Volk **81** 1951 p. 35.

708.—Mertens, R. Über den Boiden—Types *Plastoseryx bronni*. Senckenbergiana **32** 1951 pp. 205–206.

709.—Mertens, R. Die Levante—Otter der Cycladen. Senckenbergiana **32** 1951 pp. 207–209.

710.—Mertens, R. Gibt es verschiedene Rassen der Gabunotter, *Bitis gabonica*? Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 270–271 2 figs.

711.—Mertens, R. *Brookesia stumpffii*, ein Madagass. Zwergchamäleon, in Gefangenschaft. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 329–330 2 figs.

712.—Mertens, R. A new lizard of the genus *Varanus* from New Guinea. [*Varanus karlschmidti*, sp. nov.]. Fieldiana, Zool. **31** 43 1951 pp. 467–471 1 fig.

713.—Mertens, R. Zwischen Atlantik und Pazifik. Zoologische Reiseskizzen aus Nordamerika. Stuttgart 1951 127 pp. 60 pls.

714.—Mertens, R. Über Kolloidsekretion von a-Zellen des Hypophysenvorderlappens bei *Bufo viridis* Laur. in die Sinuscapillaren. Zool. Anz. **145** Ergänzungs. 1950 pp. 567–571 3 figs.

Meyer, H., see Brøndsted, H. W.

715.—Meyer, W. Allerlei über die nützliche Kreuzotter. Beitr. Naturk. Niedersachs. No. 2 1948 pp. 26–27.

716.—Meyer, W. Die Pityusen-Insel Formentera und ihre Eidechsen. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 46–48 1 fig.

717.—Mikami, Y. Lens-induction in the urodelan *Triturus*, with special reference to the free formation of the lens. Mem. Coll. Sci. Kyoto **15B** 2 1939 135–157 5 pls.

718.—Mikalski, J. St. Remarks on Stanley's environmental indices as applied to ecology of some Amphibia. Studia Soc. Sci. Torunensis Sect. E (Zool.) **2** 4 1949 pp. 121–128. [Not seen].

Miller, L. L., see Holtfreter, J.

719.—Miller, L. S. The occurrence of the Louisiana newt in Iowa. Copeia **1951** p. 176.

Miller, L. S., see Firschein, J. L.

720.—Miller, M. R. Some aspects of the life history of the Yucca Night Lizard, *Xantusia vigilis*. *Copeia* **1951** pp. 114–120 1 fig.

Miller, R. L., see Olson, E. C.

721.—Miller, W. T. Notes on South African frogs. *African Wild Life* **1950** **4** 2 pp. 100–105. [Not seen].

722.—Miller, W. T. The Rhodesian grass snake. *Herpetologica* **7** **1951** p. 137 photo.

723.—Millot, J. J. Un lézard d'eau a Madagascar (*Scelotes astrolabi* Dum. et Bib.). *Nat. malgache* **3** **1** **1951** pp. 87–90 3 figs.

724.—Millot, J. & Guibé, J. Batraciens Malgaches a biotope vegetal. *Mém. Inst. sci. Madagascar* **5A** **1** **1951** pp. 197–212 2 pls. 10 figs.

725.—Milstead, W. W. A new locality record for the Texas neotenic salamander, *Eurycea latitans*. *Herpetologica* **7** **1951** pp. 57–58.

726.—Minton, S. A. Jr. Injuries by venomous animals in Indiana. *Proc. Indiana Acad. Sci.* **60** **1951** pp. 315–323 4 figs. tables.

727.—Mitchell, F. J. The South Australian reptile fauna. Part I. Ophidia. *Rec. S. Aust. Mus.* **9** **1951** pp. 545–557 2 figs.

728.—Mitchell, R. G. Adder bite in a child. *Brit. med. J. No.* 4722 **1951** pp. 55–56.

729.—Mittleman, M. B. American Caudata. VII. Two new salamanders of the genus *Plethodon*. *Herpetologica* **7** **1951** pp. 105–112 photo.

Miyada, S., see Kawamura, T.

Miyao, G., see Yasuzumi, G.

Mogna, G., see Capraro, V.

730.—Monard, A. Résultats de la Mission Zoologique Suisse au Cameroun. Reptiles-Batraciens. *Mém. Inst. franç. Afr. noire Centre de Cameroun Sci. nat. No.* **1** **1951** pp. 123–185.

731.—Monk, J. L. Keeping and Breeding Axolotls. *Aquarist* **16** **1951** pp. 43–44 1 fig.

Montilla, B. F. S., see Pifano, C. F.

Mook, C. C., see Colbert, E. H.

732.—Moore, J. A. Hybridization and embryonic temperature adaptation studies of *Rana temporaria* and *Rana sylvatica*. *Proc. Nat. Acad. Sci.* **37** **1951** pp. 862–866. [Not seen].

Moorman, R. B., see Carlander, K. D.

733.—Morgenthaler, H. U. Zytologische und histochemische Untersuchungen an diploiden und haploiden Keimen von *Triton alpestris*. *Rev. suisse Zool.* **58** **1951** pp. 574–604 3 figs. 6 tabs.

734.—Moriya, K. On isolating mechanisms between the two subspecies of the Pond Frog, *Rana nigromaculata*. *J. Sci. Hiroshima Univ. (Zool.)* **12** **1951** pp. 47–56 2 figs. 3 tabs.

735.—Morrison, P. R., Scudder, C. & Blatt, W. The solubilities of some vertebrate fibrinogens in plasma-ethanol mixtures. *Biol. Bull. Wood's Hole* **101** **1951** pp. 171–177 6 figs. 1 tab.

Morton, D., see Bennett, H.

736.—Moses, S. T. Crocodiles in India. *Bull. Rep. Fish. Baroda* **15** **1948** pp. 1–16.

737.—Muchmore, W. B. Differentiation of the trunk mesoderm in *Amblystoma maculatum*. *J. exp. Zool.* **118** **1951** pp. 137–185 20 figs. 6 tabs.

738.—Mühlpfordt, H. Experimentelle Studien über die Beziehungen zwischen Hypophysenhormonen, Gigantismus und Akromegalie. (Nach Versuchen an Feuersalamanderlarven). *Zool. Anz.* **145** *Ergänzungsband* **1950** pp. 615–634.

739.—Müller, A. H. Grundlagen der Biostratonomie. *Abh. dtsh. Akad. Wiss. Berlin Kl. Math. allg. naturw.* **1950** **3** **1951** pp. 1–147 79 figs. tables.

740.—Müller, L. Aufstellung eines Neotypus von *Uromastix geyri* L. Müller. *Bonn. zool. Beitr.* **2** **1951** pp. 109–111.

741.—Müller, W. Betrachtungen über Tierhaltung in Klein-terrarien. *Aquar. Terrar. Z. Stuttgart* **4** **1951** pp. 162–163 fig.

742.—Müller, W. Über Pflege und Zucht von *Limnodynastes tasmaniensis*. *Aquar. Terrar. Z. Stuttgart* **4** **1951** pp. 272–273 1 fig.

Muller, W., see Zeiger, K.

743.—Murray, D. S. & Jeffree, G. M. The anatomy of man and other animals, or brothers under the skin. London (Watts & Co.) 1951 X+158 pp. frontis. col. 19 pls. (3 col.) 34 figs.

Murray, R. W., see Elkan, E.

744.—Müssbichler, A. & Umrath, K. Über den Farbwechsel von *Hyla arborea*. Z. Vergl. Physiol. Berlin **32** 1950 pp. 311–318.

745.—Muto, Y. Haploid-triploid mosaic toads induced by heat-treatment of the unfertilized eggs. J. Sci. Hiroshima Univ. (Zool.) **12** 1951 pp. 39–46 1 fig. 6 tabs.

746.—Mutschlechner, G. Ein Placodontier-Zahn aus dem Hauptdolomit der Vilser Alpen. Veröff. Mus. Ferdinand Innsbruck **26-29** 1949 pp. 21–24.

747.—Myers, G. S. Notes on salamander voices. Copeia **1951** p. 76.

748.—Myers, G. S. The most widely heard amphibian voice. Copeia **1951** p. 179.

749.—Myers, G. S. Asiatic Giant Salamander caught in the Sacramento River, and an exotic skink near San Francisco. Copeia **1951** pp. 179–180.

750.—Myers, G. S. Manual of tropical herpetological collecting. Nat. Hist. Mus. Stanford Univ. **12** pp. [1951].

751.—Myers, G. S. & Funkhouser, J. W. A new giant toad from southwestern Colombia [*Bufo blombergi*, sp. n.]. Zoologica, N.Y. **36** 1951 pp. 279–282 1 pl.

752.—Nadkarni, S. M. & Broker, R. S. Suitability of the Indian male-toad *Bufo melanostictus* in detecting chorionic gonadotropin. Indian J. med. Sci. **5** 6 1951 pp. 228–233 1 fig.

753.—Nagatsuka, Y. On the biology of *Hynobius tokyoensis* Tago. Collecting and Breeding 1944 **6** 1 pp. 20–26 illust. [Not seen].

754.—Nardone, R. M. Proteolytic enzymes in muscle protein fractions from frog leg muscles. [Abstract]. Anat. Rec. **111** 1951 pp. 444–445.

755.—Natale, L. di. L'azione biologica dei raggi X sulla regione branchiale di anfibii anuri (*Rana esculenta*), Esperienze di innesti e trapianti. [English summary]. Riv. Biol. N.S. **43** 2 1951 pp. 291–318 2 pls. 7 figs.

756.—Neill, W. T. The eyes of the Worm lizard, and notes on the habits of the species. Copeia **1951** pp. 177–178.

757.—Neill, W. T. The type locality of the Mediterranean Gecko, *Hemidactylus t. turcicus* (Linnaeus). Copeia **1951** p. 311.

758.—Neill, W. T. Amphibians and reptiles of a fifteen acre tract in Georgia. Amer. Midl. Nat. **45** 1951 pp. 241–244.

759.—Neill, W. T. A bromeliad herpetofauna in Florida. Ecology **32** 1951 pp. 140–143 2 figs.

760.—Neill, W. T. Notes on the role of crawfishes in the ecology of reptiles, amphibians, and fishes. Ecology **32** 1951 pp. 764–766.

761.—Neill, W. T. A new subspecies of salamander, genus *Pseudobranchius* from the Gulf Hammock region of Florida. Ross Allen Reptile Inst. Publ. **1** 4 1951 pp. 39–46 figs.

Neill, W. T., see Allen, E. R.

762.—Nelemans, F. A. Liberation of sympathin and acetylcholine by faradic stimulation of the frog's heart. Acta physiol. pharm. Neerl. **2** 1 1951 pp. 51–62 15 figs.

763.—Nemec, H. Über die Ausbildung der grauen Substanz im Frosch-Rückenmark. Acta Anat. **13** 1951 pp. 101–118 16 figs.

764.—Neubaur, F. Die Stimmen der einheimischen Froschlurche. Beitr. Naturk. Niedersachs. No. 7 1949 pp. 10–16.

765.—Nickerson, M. Mechanism of epinephrine-induced tachycardia in the frog. Nature, Lond. **166** 1950 pp. 736–737 1 diagr.

766.—Nickerson, M. & Noma-guchi, G. M. Blockade of epinephrine-induced cardioacceleration in the frog. Amer. J. Physiol. **163** 1950 pp. 484–504 6 figs.

767.—**Nieuwkoop**, P. D. Causal analysis of the early development of the primordial germ cells and the germ ridges in urodeles. *Arch. Anat. micr. Morph. exp.* **39** 3 1951 pp. 257–268 11 figs.

768.—**Nieuwkoop**, P. D. New experiments on the activation and organization of the central nervous system in amphibians. [Abstract]. *Anat. Rec.* **111** 1951 pp. 453–454.

769.—**[Nikitenko, M. F.]**. Conditions of growth of the optic nerve. *C.R. Acad. Sci. URSS, n.s.* **77** 1 1951 pp. 153–156 pp. [In Russian].

770.—**[Nikitenko, M. F.]**. Significance of the primary eyeslit in formation of the secondary crystalline. *C.R. Acad. Sci. URSS, n.s.* **77** 5 1951 pp. 937–939. [In Russian].

771.—**[Nikitenko, M. F.]**. Reciprocal action between retina and crystalline. *C.R. Acad. Sci. URSS, n.s.* **78** 1 1951 pp. 157–159. [In Russian].

772.—**Noguchi, K.** On the tractus tecto cerebellaris in the brain of *Megalobatrachus japonicus*. *Okajimas Folia Anat. Japonica* **23** 4–5 1951 pp. 257–263. [Not seen].

773.—**Noland, W. E.** The hydrography, fish, and turtle population of Lake Wingra. *Trans. Wis. Acad. Sci. Arts Lett.* **40** 2 1951 pp. 5–58 1 map.

Nomaguchi, G. M., see Nickerson, M.

774.—**Norris, K. S.** The lizard that swims in the sand [*Uma notata*]. *Nat. Hist., N.Y.* **60** 1951 pp. 404–407 photos.

775.—**Norris, K. S. & Lowe, C. H. Jr.** A study of the osteology and musculature of *Phrynosoma m'callii* pertinent to its systematic status. *Bull. Chicago Acad. Sci.* **9** 1951 pp. 117–125 3 figs.

776.—**Norris, K. S. & Zweifel, R. G.** Observations on the habits of the ornate box turtle, *Terrapene ornata* (Agassiz). *Nat. Hist. Misc. Chicago* No. 58 1950 pp. 1–4.

Norris, K. S., see Lowe, C. H. Jr.

Nukada, H., see Hashimoto, K.

777.—**Oberholzer, R. J. H.** Influence of various potassium concentrations on the oxygen consumption of frog nerves. [Abstract]. *Biol. Bull. Wood's Hole* **101** 1951 p. 198.

O'Brien, J. P., see La Ham, Q.

778.—**Ockert, H.** *Proctotretus pectinatus*, eine kleine Iguanide aus Argentinien. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 214–215 photo.

779.—**Oelrich, T. M.** A new *Testudo* from Madison County, Montana. *Contr. Mus. Paleont. Univ. Michigan* **8** 4 1950 pp. 43–58 1 pl. text-figs. 1–4.

780.—**Oertter, J.** *Dendrobates typographicus* (Das Erdluerioschchen). *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 48–49 1 fig.

781.—**Oertter, J.** Beobachtungen an *Hyla albomarginata* Spix. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 225–226 1 col. pl. 1 fig.

782.—**Oeser, R.** Haltung und Zucht des *Triturus vittatus* Gray. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 103–106 1 fig.

783.—**Oftedal, P.** Artsbestemmelse av froskelarver. *Fauna, Oslo* **4** 1951 28–30.

784.—**Oh, J.** Experimentelle Untersuchungen über den Einfluss der wichtigeren formosanischen Schlangengifte auf die Koagulation des Kaninchenblutes in vitro. *Jap. J. Med. Sci. IV. Pharmacol.* **12** 1 1938 pp. 31–55.

785.—**Oh, J.** Experimentelle Untersuchungen über den Einfluss der wichtigeren formosanischen Schlangengifte auf die Koagulation des Kaninchenblutes in vivo. *Jap. J. Med. Sci. IV. Pharmacol.* **12** 1 1938 pp. 57–78.

Oh, Y., see To, S.

786.—**Okada, Y. K.** Studies on lens-regeneration in anuran Amphibia. Preliminary observations and experiments. *Mem. Coll. Sci. Kyoto* **15B** 2 1939 pp. 159–166 12 figs.

787.—**Okada, Y. K.** Induction of notochord by frog ventral skin and the organizing effect of such a notochord. *Proc. Japan Acad.* **24** 10 1948 pp. 22–29.

788.—Okada, Y. K. & Hama, T. Induction of sensory organs by the uninvaginated portion of the dorsal lip of the amphibian gastrula. *Proc. Japan Acad.* **24** 10 1948 pp. 30–34 4 figs.

Olekiewicz, M., see Lubinska, L.

789.—Oliva, O. Jěštěrka zedni [*Lacerta muralis* (Laur.)] na jižním Slovenska. [The lizard *Lacerta muralis* (Laur.) found in south Slovakia.]. *Akvaristické Listy* **22** 1950 [1 p.].

790.—Oliva, O. Další doklady, o rozšíření jěštěrky živorodé ve středních Čechách. [New documents to the geographical distribution of *Lacerta vivipara* in middle Bohemia.]. *Akvaristické Listy* **22** 1950 [pp. 2.].

791.—Oliva, O. Obojžvelníci rakoonického okoli se žretelem k nově zjištěné lokalitě skokana skřehotavého (*Rana ridibunda* Pallas). [A synopsis of amphibians in the Rakovink region with a special regard to a newly ascertained locality of *R. ridibunda* Pallas.]. *Akvaristické Listy* **23** 1951 pp. 17–19 fig.

792.—Oliver, J. A. Ontogenetic changes in osteodermal ornamentation in skins. *Copeia* **1951** pp. 127–130 2 figs. 1 tab.

793.—Oliver, J. A. "Gliding" in amphibians and reptiles, with a remark on an arboreal adaptation in the lizard, *Anolis carolinensis carolinensis* Voigt. *Amer. Nat.* **85** 1951 pp. 171–176.

794.—Oliver, J. A. Caiman Lizard—a Reptile Rarity. [*Dracaena guianensis*]. *Animal Kingdom, N.Y.* **54** 1951 pp. 151–153 3 figs.

795.—Olsen, R. Size relations in the limb bones of *Buettneria perfecta*. *J. Paleont.* **25** 1951 pp. 520–524 3 text-figs.

796.—Olson, E. C. The evolution of a Permian vertebrate chronofauna. *Evolution* **6** 1952, pp. 181–196 5 figs.

797.—Olson, E. C. The temporal region of the Permian reptile *Diadectes*. *Fieldiana Geol.* **10** 9 1950 pp. 63–77 text-figs. 27–32.

798.—Olson, E. C. Fauna of Upper Vale and Choza : 1–5. 1. A new family of the Parareptilia. *Fieldiana Geol.* **10** 11 1951 pp. 89–97 text-figs. 38–42.

799.—Olson, E. C. Fauna of Upper Vale and Choza : 1–5. 2. A new Captorinomorphic reptile. *Fieldiana Geol.* **10** 11 1951 pp. 97–104 text-figs. 43–46.

800.—Olson, E. C. Fauna of Upper Vale and Choza : 1–5. 5. An Eryopid amphibian. *Fieldiana Geol.* **10** 11 1951 pp. 124–128.

801.—Olson, E. C. Vertebrates from the Choza formation, Permian of Texas. *J. Geol. Chicago* **59** 2 1951 pp. 178–181 1 text-fig.

802.—Olson, E. C. *Diplocaulus*. A study in growth and variation. *Field Mus. Publ. Chicago Geol.* **11** 2 1951 pp. 55–154 pls. 1–7 3 text-figs. and numerous tables.

803.—Olson, E. C. & Miller, R. L. Relative growth in paleontological studies. *J. Paleont.* **25** 1951 pp. 212–223.

804.—Olson, E. C. & Miller, R. L. A mathematical model applied to a study of the evolution of species. *Evolution* **5** 1951 pp. 325–338 figs.

805.—Orias, O. & Allende, I. L. C. de. Action des gonadotrophines hypophysaire et chorionique sur la résistance à l'eau des ovules de crapaud. *C.R. Soc. Biol. Paris* **145** 1951 pp. 450–451.

806.—Orleib, E. *Thamnophis sirtalis sirtalis* eats *Anolis carolinensis*. *Herpetologica* **7** 1951 p. 76.

807.—Ormsby, A. I. Venomous land snakes of New South Wales and their comparative danger to man. *Proc. R. Zool. Soc. N.S.W.* **1949–50** 1951 pp. 37–41 1 fig.

808.—Ortmann, R. Versuch einer morphologisch-histochemischen Differenzierung der Muskulatur beim Frosch. *Verh. anat. Ges. Jena* **98** 1951 pp. 69–77 7 figs.

809.—Orton, G. L. The tadpole of *Leptodactylus melanonotus* (Hallowell). *Copeia* **1951** pp. 62–66 3 figs.

- 810.—Orton, G. L.** Notes on some tadpoles from southwestern Missouri. *Copeia* **1951** pp. 71–72.
- 811.—Orton, G. L.** An example of inspecific mating in toads. *Copeia* **1951** p. 78.
- 812.—Orton, G. L.** Direct development in frogs. *Turtlox News* **29** 1 **1951** pp. 2–6.
- 813.—Otero, A. R.** Sobre la alimentacion de *Anolis porgatus*. *Bol. Hist. Nat.* **1** 4 **1950** pp. 186–187 photo. [Not seen].
- 814.—Ouyang, C.** On the cause of death due to the venom of *Bungarus multicinctus* Blyth in rabbits. *Mem. Fac. Med. Nat. Taiwan Univ.* **1** 3 **1950** pp. 121–125.
- 815.—Padoa, E.** Hormones sexuelles et différenciation du sexe chez les batraciens. *Portug. Acta biol.* (A) Vol. R. B. Goldschmidt 1949–51 pp. 621–651 3 figs.
- 816.—Padoa, E.** Grenouilles et stéroïdes. *Arch. Anat. micr. Morph. exp.* **39** 3 **1951** pp. 314–336 4 figs.
- 817.—Padoa, E. & Talluri, M. V.** Oestrone, progesterone and sex differentiation in "*Rana esculenta*". *Arch. Ital. Anat. Embryol.* **56** **1951** pp. 349–364. [Not seen].
- 818.—Panchen, A. L.** Notes on the reptiles and amphibia of Bookham Common. *London Nat. No.* **30** **1951** pp. 42–44.
- 819.—Pandya, G. T.** Skull of *Lessemys punctata granosa*. *J. Univ. Bombay N.S.* **20B** 3 **1951** pp. 41–50 7 figs.
- 820.—Panigel, M.** Rapports anatomo-histologiques établis au cours de la gestation entre l'oeuf et l'oviducte maternal chez le Lézard ovovivipare *Zootoca vivipara* W. (*Lacerta vivipara* J.). *Bull. Soc. zool. Fr.* **76** **1951** pp. 163–170 1 pl.
- 821.—Parenzan, P.** Nuovo metodo, semplificato, per la diagnosi precoce di gravidanza coll' impiego degli anfibi. *Boll. Soc. Nat. Napoli* **59** **1951** pp. 70–72.
- 822.—Park, O. & Edgren, R. A.** The second report of predation on pselaphid beetles. *Chicago Acad. Sci. Nat. Hist. Misc.* **54** 1–2 **1950**. [Not seen].
- 823.—Parker, M. V.** Notes on the bird-voiced tree frog, *Hyla phaeocrypta*. *J. Tenn. Acad. Sci.* **26** 3 **1951** pp. 208–213 2 figs.
- Parkes, A. S.,** see Bruce, H. M.
- 824.—Pasteels, J.** Centre organisateur et potential morphogénétique chez les Batraciens. *Bull. Soc. zool. Fr.* **76** **1951** pp. 231–270 16 figs.
- 825.—Paterson, N. F.** The nasal cavities of the toad *Hemiphaedusa carvalhoi* Mir.-Rib. and other Pipidae. *Proc. Zool. Soc. London* **121** **1951** pp. 381–415 17 figs.
- Patetta-Queirolo, M. A.,** see Segundo, J. P.
- 826.—Paul, H.** Schrifttum des Unterkarbons. *Abh. Reichsamts Bodenforschung N.F.* **198** **1944** pp. 1–515.
- 827.—Paul, H.** Der Nachweis gonadotroper Hormone in Flüssigkeiten durch den Spermatorrhoe-Test bei Fröschen und Kröten. *Mikrokosmos* **40** 7 **1951** pp. 171–173 2 figs.
- 828.—[Pavlinin, V. N. & Shvartz, S. S.].** (Trial of ecological estimation of the action of starvation on animal organism). *Zool. Zh. Moscow* **30** 6 **1951** pp. 620–628. [In Russian].
- 829.—Peabody, F. E.** The origin of the astragalus of reptiles. *Evolution* **5** **1951** pp. 339–344 figs.
- 830.—Pejović, D.** Ueber den Fund des Unterkiefers eines fossilen Krokodile in Cementmangel von Popovac bei Paraćin. (Serbian with German summary). *Zborn. Radova geol. Inst. Beograd XVI* 2 **1951** pp. 103–107 1 plate.
- 831.—Pelgen, J. L.** A *Rana catesbeiana* with six functional legs. *Herpetologica* **7** **1951** pp. 138–139 figs.
- Pellissier, A.,** see Ceccaldi, J.
- 832.—Peng, M.-T.** Relation between the change of blood-sugar fluctuation and the production of immune bodies by successive injections of *Trimeresurus mucrosquamatus* venom. *J. Formosan Med. Ass.* **49** 6 **1950** pp. 215–223.
- 833.—Peng, M.-T.** A toxicological study of the fractionated venom of *Naja naja atra*. *Mem. Fac. Medicine Taiwan Univ.* **1** 4 **1951** pp. 200–214.

834.—Peng, Ming-Tsung. Action of the venom of *Trimeresurus mucrosquamatus* on circulation and respiration. Mem. Fac. Medicine Taiwan Univ. **1** 4 1951 pp. 215–223.

Peng, M-T, see Ueda, E.

835.—Penhos, J. C. Action de la castration et de l'alimentation sur l'oviducte et les corps de Bidder du crapaud. C.R. Soc. Biol. Paris **145** 1951 pp. 134–135.

836.—Penhos, J. C. & Cardeza, A. F. Influence du jeûne et de l'alimentation forcée chez le crapaud. C.R. Soc. Biol. Paris **145** 1951 pp. 447–448 2 figs. also Rev. Soc. Argentina Biol. **26** 5 1950 pp. 239–247 illus. [Not seen].

Penhos, J. C., see Cattaneo, P.

Pennella, P., see Capararo, V.

837.—Pequegnat, W. E. The biota of the Santa Ana Mountains. J. Ent. Zool. **42** 1951 pp. 1–84.

838.—Pereria, A. A. Acidentes ofídicos e sua terapeutica. An. Inst. Pinheiros **12** 23 1949 pp. 32–41. [Not seen].

839.—Perez, M. E. The food of *Rana catesbeiana* Shaw in Puerto Rico. Herpetologica **7** 1951 pp. 102–104.

840.—Perkins, C. B. Hybrid rattlesnakes. Herpetologica **7** 1951 p. 146.

841.—Perkins, C. B. Longevity of snakes in captivity in the United States. Copeia **1951** pp. 182–183 1 tab.

842.—Perkins, E. A. T. The first finding of a live pigmy crocodile in Uganda [*Osteolaemus tetraspis*]. Uganda J. **15** 2 1951 pp. 182–186 1 fig.

843.—Perri, T. Ricerche sperimentale sull' induzione di orti sopranumerari negli anfibi anuri (*Bufo vulgaris*). Mem. Accad. Lincei (8) **3** 2 1951 pp. 41–114 3 pls. 20 figs.

844.—Perri, T. La determinazione di arti sopranumerari in "*Bufo vulgaris*". R.C. Accad. Lincei (8) **10** 1 1951 pp. 64–68.

845.—Perri, T. Morfologia comparata e causale delle connessioni tra cinto pelvico e colonna vertebrale e tra cinto anteriore e sterno negli Anfibi. Rend. Accad. Lincei (8) **11** 3–4 1951 pp. 223–229 2 figs.

846.—Peters, J. A. The proper citation for certain species described by Tschudi. Copeia **1951** p. 70.

847.—Peters, J. A. Studies on the lizard *Holbrookia texana* (Troschel) with descriptions of two new subspecies. Occ. Pap. Mus. Zool. Michigan No. 537 1951 pp. 1–20.

848.—Petit, G. Capture d'une tortue luth a' La Nouvelle (Aude). Vie et Milieu **2** 1951 pp. 155–156.

849.—Petit, G. & Delabie, J. Remarques a propos de la pullulation de *Pelobates cultripes* (Cuv.) (Amphibiens), au cours de l'été 1951, dans la région de Saint-Cyprien-Canet (Pyrénées-Orientales). Vie et Milieu **2** 1951 pp. 401–405.

850.—Petterson, L.-E. Några iakttagelser under en inventering av det högre djurlivet i ett område väster om Sarck. Fauna o. flora **1951** 5 pp. 177–200 7 figs.

851.—Petzsch, H. Weisslinge des Grasfrosches (*Rana temporaria temporaria* L.) in Freiheit und im Terrarium. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 326–329 2 figs.

852.—Pfaff, J. R. List of Danish Vertebrates, Copenhagen (Danskt Videnskabs Forlag) 1950 pp. 180 1 map.

853.—Philpot, V. B. & Smith, R. G. Neutralization of pit viper venom by king snake serum. Proc. Soc. exp. Biol. N.Y. **74** 1950 pp. 521–523 and Fed. Proc. 1950 **9** 1 p. 307 (Abstract). [Not seen].

854.—Piatt, J. Transplantation experiments between pigmentless and pigmented eggs of *Amblystoma punctatum*. J. exp. Zool. **118** 1951 pp. 101–135 28 figs. and Anat. Rec. 1951, p. 337 [Abstract].

855.—Pick, J. & Sheehan, D. Sympathetic rami in the frog. [Abstract]. Anat. Rec. **109** 2 1951 pp. 337–338.

Piette, G., see Urbain, A.

856.—Pifano, C. F., Romer, M. & Montilla, B. F. S. Serpientes ponzoñosas de Venezuela. III.—*Bothrops schlegelii* (Berthold, 1846) Jan. 1875 : SU existencia en Venezuela. Arch. venez. Pat. trop. **2** 1 1950 pp. 257–264 2 figs.

- 857.—Pimentel, R. A.** Notes on *Phrynosoma d. douglassii* in Jefferson County, Oregon. *Herpetologica* **7** 1951 p. 140.
- 858.—Pisanó, A.** Prima ricerche sulla parabiosi larvale di ibridi FI (*Triturus cristatus* ♂ *Triturus vulgaris* ♀) con la specie paterna. *Boll. Soc. ital. Biol. sper.* **26** 1950 pp. 826–828.
- 859.—Pisanó, A.** Observaciones sobre parabiosis larvales de híbridos F (*Triturus cristatus* ♂ × *T. vulgaris* ♀) con la especie paterna. [English summary]. *Acta zool. Lilloana* **9** 1950 pp. 355–358 1 pl.
- 860.—Pisanó, A.** Gonadi e rene nelle larve d' *Triturus cristatus* trattate con testoterone. *Riv. Biol. N.S.* **43** 2 1951 pp. 215–228 3 pls. [English summary].
- 861.—Pisanó, A. & Chicco, R.** Valore del *Triturus cristatus* quale test per la reazione biologica di gravidanza. *Bol. Soc. ital. Biol. sper.* **25** 1949 pp. 1175–1177.
- 862.—Pisanó, A. & Rengel, D.** Descripción de un ejemplar hermafrodita de *Leptodactylus chaquensis*. [English summary]. *Acta zool. Lilloana* **9** 1950 pp. 347–353 2 pls.
- 863.—Piveteau, J.** Images des mondes disparues. Paris 1951 pp. 1–157 107 figs.
- 864.—Platner, W. S.** Effects of low temperature on magnesium content of blood, body fluids and tissues of goldfish and turtle. *Amer. J. Physiol.* Baltimore **161** 1950 pp. 399–405 tables.
- 865.—[Polezhaev, L. V. & Ramenskaja, G. P.].** Regeneratsiya konechnostei u zherlianki vyzvannaia produktami gidroliza khriashcha. *C.R. Acad. Sci. URSS. n.s.* **70** 1 1950 pp. 141–144. [Not seen].
- 866.—Ponse, K.** La génétique du sexe chez les batraciens avec un aperçu des travaux de R. R. Humphrey. *Arch. Anat. micr. Morph. exp.* **39** 1951 pp. 183–214 4 figs.
- 867.—Pope, C. H.** The reptiles and amphibians of the Chicago region. Chicago nat. Hist. Mus. Bull. **22** 3 1951 pp. 3–4 4 figs.
- 868.—Pope, C. H. & S. H.** A study of the salamander *Plethodon ouachitae* and the description of an allied form. [*Plethodon caddoensis*, **sp. nov.**]. *Bull. Chicago Acad. Sci.* **9** 8 1951 pp. 129–152 6 figs.
- 869.—Pope, C. H. & Romer, J. D.** A new ranid frog (*Staurois*) from the Colony of Hongkong. [*S. hongkongensis*, **sp. nov.**]. *Fieldiana Zool.* **31** 1951 pp. 609–612 2 figs.
- 870.—[Popov, V. V.].** Formation of crystalline in the rudiment of Chordal-mesodermic cells. *C.R. Acad. Sci. URSS. n.s.* **77** 4 1951 pp. 749–752 figs. [In Russian].
- 871.—[Popova, N. K.].** Seasonal alterations in the reaction of males of Anurians on chorionic gonadotrophone. *C.R. Acad. Sci. URSS. n.s.* **81** 2 1951 pp. 317–319. [In Russian].
- 872.—Popp, B.** Über Erkrankung eines *Testudo radiata*. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 49–50 1 fig.
- 873.—[Portugalov, V. V. & Yakovlev, V. A.].** Localisation of cholinesterase in the transverse striated muscles. *C.R. Acad. Sci. URSS n.s.* **78** 5 1951 pp. 1021–1024. [In Russian].
- 874.—Postma, N.** On the effect of the second and third ligatures of Stannius on the frog heart. *Experientia Basel* **7** 2 1951 pp. 67–68 tables.
- Poupa, O.,** see Hahn, P.
- 875.—Prechtl, H. F. R.** Zur Paarungsbiologie einiger Molcharten. *Z. Tierpsychol.* **8** 1951 pp. 337–348.
- 876.—Price, J. W.** A half-century-old Boxturtle, *Terrapene carolina carolina* (Linnaeus), from Northern Ohio. *Copeia* **1951** p. 312 1 pl.
- 877.—Price, L. I.** Um anfíbio Labirintodonte da formação Pedra de Fogo, Estado do Maranhão. *Bol. Serv. geol. min. Brasil* **124** 1948 pp. 1–18 (Summary in English pp. 19–32) 3 plates.
- 878.—Prieto, A.** Cover photograph of *Cyclura macleani* Gray. *Bol. Hist. nat. Soc. Felipe Pocy* **13** 1950 [Not seen].
- 879.—Ptyzch, H.** Weisslinge des Grasfrosches (*Rana temporaria temporaria* L.) in Freiheit und im Terrarium. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 326–328 3 figs.

880.—Pujiula, J. El testiculo de *Salamandra maculosa*. Rev. Acad. Cienc. Exact. Fis.-Quim. y Nat. Zaragoza Ser. 2a **3** 2 1948 pp. 73-76 figs. [Not seen].

881.—Pusching, R. Unsere Vipern. Carinthia II **61** 1951 pp. 124-132.

Putnam, E., see Levey, S.

Quaranta, J. V., see Evans, L. T.

Quinn, B. L., see Kemp, N. E.

882.—Quiring, D. P. Functional Anatomy of the Vertebrates, New York (McGraw Hill) 1950 pp. XI + 624 257 figs.

883.—Rabbeno, A. Azione inotropica positiva e negativa dell' adrenalina sul cuore di *Rana*. Boll. Soc. ital. Biol. sper. **25** 1949 pp. 148-150.

884.—Radovanovic, M. A new race of the Alpine Newt from Yugoslavia. [*Triturus alpestris montenegrinus*, subsp. nov.]. Brit. J. Herpetol. **1** 5 1951 pp. 93-97 figs.

885.—Rai, K. Die Beeinflussung des Blutzuckers von Kaninchen durch die Gifte Siamesischer Schlangenarten. J. Med. Ass. Formosa **35** 10 1936 pp. 2195-2209.

886.—Rai, K. Über den Einfluss der wichtigeren formosanischen Schlangengifte auf die Atmung des Kaninchens.

- i. Mitteilung. Die nach einer Einzeldosis der verschiedenen Schlangengifte eintretenden Veränderungen der Atmung bei Abwesenheit therapeutischer Massnahmen.
- ii. Mitteilung. Einfluss verschiedener therapeutischer Massnahmen auf die durch das Gift von *Trimeresurus mucrosquamatus* verursachten Veränderungen der Atmung.
- iii. Mitteilung. do., von *Bungarus multicinctus*.

Folia Pharmacol. Japan. **24** 111 1937 pp. 123-138 139-154 155-167.

Ramenskaja, G. P., see Polezhaev, L. V.

887.—Ramsey, L. W. New localities for several Texas snakes. Herpetologica **7** 1951 p. 176.

888.—Ranzi, S. Viscosity of protein solutions and development of the amphibian embryo. Exper. Cell Res. N.Y. Suppl. No. 1 1949 pp. 555-557 1 fig.

889.—Ranzi, S. The proteins in the cells and in embryonic development. Experientia **7** 1951 pp. 169-174 5 figs.

890.—Rapatz, G. L. Effects of increased environmental temperatures on the concentration of blood reducing sugars in *Chrysemys picta*. [Abstract]. Anat. Rec. **111** 1951 pp. 522-523.

891.—Rapkinè, L. & Brachet, J. Recherches sur le rôle des groupes sulphydriles dans la morphogénèse. I. Action des inhibiteurs des groupes—SH sur l'oeuf entier et sur des explantats dorsaux et ventraux chez les amphibiens. Implantation de proteines sulphydriles. Bull. Soc. Chim. biol. **33** 5-6 1951 pp. 427-438.

892.—Raunich, L. Behaviour of fragments of adult spleen when transplanted into anterior chamber of the eye with or without a lens, in urodele amphibians. Ric. Sci. **18** 1948 pp. 602-604. [Not seen].

893.—Raunich, L. Über die Anlage des Telencephalons in der Neurula der Amphibien und die Faktoren seiner bilateralen ausbildung. Experientia **7** 1951 pp. 300-302 4 figs.

894.—Rawlings, J. W. Fight between a snake and a lizard. Malayan Nat. J. **3** 1948 p. 96. [Not seen].

Raymond, W. D., see Bennett, H.

895.—Re, G. Prime ricerche istochimiche e biologiche sul muco degli involucri ovulare e degli ovidutti di anfibi. Boll. Soc. ital. Biol. sper. **26** 1951 pp. 1512-1513.

896.—Re, G. Ricerche istochimiche e biologiche sul muco degli involucri ovulari e degli ovidutti di Anfibi. Arch. Biol. Paris **62** 1951 pp. 107-132 4 tabs.

897.—Reed, C. A. Larval ambystomid salamanders from southern Arizona and Sonora. Nat. Hist. Misc. Chicago No. 79 1951 pp. 1-3.

898.—Reese, A. M. Unusual animal foods of man. Proc. W. Va. Acad. Sci. **22** 1951 pp. 35-41.

899.—Reese, R. W. The identity of the salamander *Gyrinophilus danieli*, with description of a new subspecies. Nat. Hist. Misc. Chicago No. 63 1950 pp. 1-7 2 figs.

900.—Reese, R. W. & Firschein, I. L. Herpetological results of the University of Illinois Field Expedition, Spring 1949. II. Amphibia. Trans. Kansas Acad. Sci. **53** 1950 pp. 44–54.

901.—Reese, R. W. & Smith, H. M. Pattern neoteny in the salamander *Eurycea lucifuga* Rafinesque. Copeia **1951** pp. 243–244 1 fig.

Reeve, W., see Smith, H. M.

902.—Reijst, A. Von meinen nordamerikanischen Zierschildkröten. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 302–304 2 figs.

903.—Reinbach. Die vordere quadrato-kraniale Kommissur bei den Anuren. Verh. anat. Ges. Jena **97** (1950) 1951 pp. 111–118 4 figs.

904.—Reinhart, H. L., Caplan, I. J. & Shinowara, G. Y. Factors influencing the male frog test for pregnancy. Amer. J. clin. Path. **21** 1951 p. 624, tables.

905.—Remacle, G. Le sonneur en feu. Nat. Belges **32** 3 1951 p. 52.

906.—Rengel, D. Accion de la temperatura elevada sobre la espermatogenesis de dos formas de *Leptodactylus ocellatus* (L.). [English summary]. Acta zool. lilloana **9** 1950 pp. 425–438 2 pls.

Rengel, D., see Pisanó, A.

907.—Rensch, B. Neuere probleme der abstammungslehre: die transspezifische evolution. Stuttgart, Ferdinand Enke 1947 407 pp. [Not seen].

908.—Reuss, F. A. T. Humming snakes of North America. Herpetologica **7** 1951 p. 144.

909.—Rey, P. Sur le determinisme hormonal du reflexe d'embrassement chez les mâles de Batraciens anoures. J. Physiol. Paris **40** 1 2 1948 pp. 2929–2939. [Not seen].

910.—Rey, P. Action des hormones sexuelles sur la musculature des membres anterieurs des batraciens anoures. II. Quelques donnees sur la structure des muscles chez le male et la femelle de *Bufo vulgaris*. C.R. Ass. Anat. No. 55 1949 pp. 330–335. [Not seen].

911.—Ri, T. Experimentelle Untersuchungen über die Wirkung des Giftes gewisser formosanischer Schlangen auf den Kohlenhydrathaushalt.

i. Mitteilung. Über die Beeinflussung des Zuckergehalts des Kaninchenblutes durch die Schlangengifte bei akuter vergiftung.

ii. Mitteilung. Do. chronischer do.

iii. Mitteilung. Über die Beeinflussung des Blutzuckers sowie der Glykozenmenge in heber und Muskeln das Kaninchens durch die Schlangengifte.

iv. Mitteilung. Über die Beeinflussung des Adrenalinegehaltes in den Nebennieren und im Blut des Kaninchens durch die Schlangengifte.

v. Mitteilung. Über den Einfluss von Heilseren auf den Blatzucker des Kaninchenblutes bei Vergiftungen mit Schlangengiften.

vi. Mitteilung. Über die gegenseitige Beeinflussung des Blutzuckers gewisser crotalinaer Schlangengifte nach erfolgter Gewohorung as diese Gifte.

Folia Pharmacologica Jap. **27** I 1939 pp. 13–34 35–52. II pp. 105–122 165–204. III 260–279 280–291.

912.—Ribeiro d Souza, H. Investigaçao sôbre o veneno do "*Bufo marinus*". Hospital, Rio de J. **41** 4 1952 pp. 553–578.

913.—Ricceri, G. Sull' assenza dell' uricasi nel fegato dei cheloni (*Testudo graeca*). Boll. Soc. ital. Biol. sper. **25** 1949 pp. 1505–1507.

Ricci, C., see Martini, V.

914.—Rickenbacher, J. Über ein spontan entstandenes carcinom bei *Triton alpestris*. Schweiz. Z. Allg. Path. **13** 4 1950 pp. 493–503 figs. [Not seen].

915.—Rickenbacher, J. Die Nukleinsäuren in der Augenentwicklung bei Amphibien. Rev. suisse Zool. **58** 1951 pp. 456–462 2 figs.

Riggs, E. S., see Hibbard, C. W.

916.—Rincones, R. G. Resumen suscito de la vida de Vital Brazil. Bol. Acad. Cienc. Caracas **14** 44 1951 pp. 61–68 port.

Roberts, W. A., see Faul, H.

Robertson, W. B., see Burger, W. L.

917.—Rodeck, H. G. Guide to the turtles of Colorado. Univ. Colorado Mus. Leaflet 7 1950 1-9 illus. [Not seen].

918.—Rodhain, J. Tumeurs ostéo-chondro-fibreuses multiples chez le lizard *Cyclura cornuta*. Rev. Belge Path. 19 5 1949 pp. 317-320 figs. [Not seen].

Roecker, R. M., see Evans, H. E.

919.—[Rogal, I. G.] Stimulated differentiation in the regeneration of limbs in *Bombina bombina*. C.R. Acad. Sci. URSS. n.s. 81 5 1951 pp. 953-956 2 figs. [In Russian].

920.—Röhl, E. Fauna description de Venezuela. Bol. Acad. Cienc. Caracas 12 36-37 1949 pp. i-xxxvi 1-495 246 figs.

921.—Röhrs, M. Über die Nachwirkung auf Larven von *Triturus alpestris* und *Triturus helveticus*. Zool. Anz. 147 1951 pp. 64-70 2 figs.

922.—Romer, J. D. The occurrence of the lizard *Gekko gekko* in the colony of Hong Kong. Copeia 1951 p. 80.

923.—Romer, J. D. Observations on the habits and life-history of the Chinese newt, *Cynops chinensis* Gray. Copeia 1951 pp. 213-219 3 figs. 3 tabs.

924.—Romer, J. D. Surface- locomotion of certain frogs (*Rana*), and the occurrence of *R. taipehensis* Van Denburgh in India. J. Bombay nat. Hist. Soc. 50 1951 pp. 414-415.

Romer, J. D., see Pope, C. H.

Romer, M., see Pifano, C. F.

925.—Rosa, C. N. Notas sobre o desenvolvimento normal de um sapo—*Bufo ictericus* L. Bol. Fac. Filos. Cien. Let. Univ. S. Paulo Zool. No. 16 1951 pp. 281-287 3 pls.

Rose, H. T., see Argenti, P. P.

926.—Rose, S. M. Causes for failure of limb regeneration and the problem of inducing it in Anura and Lacertilia. Exper. Cell Res. N.Y. Suppl. No. 1 1949 pp. 588-590.

927.—Rosenbaum, R. M. & Velardo, J. T. Growth inhibition in amphibian larvae by 4-amino pteroyl glutamic acid (aminopterin). Nature, Lond. 168 1951 pp. 424-425.

928.—Rosenberg, H. Gefangenschaftsbeobachtungen am Panzergürtelschweif (*Cordylus cataphractus* Boie) Zool. Anz. 145 Ergänzungs. 1950 pp. 831-834 1 fig.

Rossetti, F., see Weiss, P.

Rossignol, P., see Valette, G.

929.—Rostand, J. Génétique des batraciens anoures ; Anomalies héréditaires et phénocopies. Bull. Soc. Hist. nat. Toulouse 86 1951 pp. 230-236 5 figs.

930.—Rostand, J. Sur une nouvelle anomalie génétique (diplopodie) chez le crapaud ordinaire (*Bufo bufo*). C.R. Acad. Sci. Paris 232 1951 pp. 2043-2045.

931.—Rostand, J. Albinesmæ partiel, d'origine génétique, chez le crapaud ordinaire (*Bufo bufo*). C.R. Acad. Sci. Paris 233 1951 pp. 761-762.

932.—Rostand, J. Sur un cas de gynogenèse, spontanée ou provoquée chez *Bufo bufo*. C.R. Soc. Biol. Paris 145 1951 pp. 341-342.

933.—Rostand, J. Surmaturité des oeufs et anomalies chez *Rana temporaria*. C.R. Soc. Biol. Paris 145 1951 pp. 624-625.

934.—Rostand, J. Parthénogénèse expérimentale chez le xénope (*Xenopus laevis*). C.R. Soc. Biol. Paris 145 1951 pp. 1453-1454.

Roth, P. C. J., see Sluczewski, A.

935.—Rothschuh, K. E. Über Dehnungspotentiale am M. sartorius und am Herzmuskel des Frosches. Pflüger's Arch. Physiol. 254 2 1951 pp. 171-? [Not seen].

936.—Rudolph, G. Action du chlorure de d-tubocurarine sur le coeur de grenouille isolé. C.R. Soc. Biol. Paris 145 1951 pp. 186-190 3 figs.

937.—Rudolph, G., Coraboeuf, E. & Thieulin, R. Contribution à l'étude de l'action de l'uréthane sur les fibres A des nerfs de Batraciens. C.R. Soc. Biol. Paris 145 1951 pp. 1676-1679 2 figs.

938.—Rugh, R. The Frog. Its reproduction and development. Blakiston Co. Philadelphia 1951 pp. i-x 336 figs.

939.—Rühmekorf, E. Kennzeichen der Amphibienlarven Nordwestdeutschlands. Beitr. Naturk. Niedersachs. **4** 2 1950 pp. 49–55 2 figs.

940.—Rusconi, C. El Puelchense se Buenos Aires y su Fauna (Plioceno medio). Publ. Inst. Fis. y Geol. Argentina **33** 1948 99 pp. illust.

941.—Sabbadin, A. Alcuni aspetti del differenziamento sessuale di una razza ben differenziata di *Rana esculenta* in relazione con la teoria dei differenziatori sessuali. Riv. Biol. N.S. **43** 1 1951 pp. 107–129 3 pls. 4 figs. [English summary].

942.—Sabbadin, A. Alcuni aspetti morfologici del differenziamento sessuale della *Rana esculenta* di Padova. Monit. zool. ital. **59** Suppl. 1951 p. 286.

943.—Sabbadin, A. Studio morfologico e quantitativo sullo sviluppo delle gonadi di una razza indifferenziata di *Rana dalmatina*. [English summary]. Arch. Zool. Torino **36** 1951 pp. 167–216 4 pls. 8 figs.

944.—Sacerdote, M. & Argan-Chiesa, M. Modificazioni strutturali del nucleo e del citoplasma durante il ciclo secretorio in ghiandole granulose cutanee di *Salamandra maculosa*. Monit. zool. ital. **59** 1951 pp. 35–45 5 figs.

Sacerdote, M., see Cafiero, M.

945.—Saint-Seine, P. de. Vertébrés autuniens de Bourbon-l'Archambault (Allier). Ann. Paléont. Paris **35** 1949 pp. 131–140 1 pl. text-figs. 1–7.

946.—Sala, M. Ricerche sul potere regolativo del sistema nervoso degli anfibii anuri. Comment. pont. Acad. Scient. **14** 2 1950 pp. 97–135 6 pls. 2 figs.

947.—Sala, M. Ricerche sul potere regolativo del sistema nervoso degli anfibii. Monit. zool. ital. **59** Suppl. 1951 pp. 290–293.

948.—Salvatore, l'Abbate. L'azione di alcuna betaïne dell'acido strienico e dei solfati dei derivati alchilati. Corrispondenti della stricnina sul cuore isolato di *Bufo vulgaris*. Boll. Soc. ital. Biol. sper. **26** 1950 pp. 340–342.

949.—Samarasinghe, E. Report on the anatomical variations observed in a polymelous specimen of *Bufo melanostictus*. Ceylon J. Sci. (B) Zool. **24** 1951 pp. 181–186 3 pls.

950.—Sanado, M. The occurrence of tetraploidy in the Japanese newt, *Triturus pyrrhogaster*, by cold treatment of fertilized eggs. J. Sci. Hiroshima Univ. (Zool.) **12** 1951 pp. 35–37 1 tab.

951.—Sanders, O. & Smith, H. M. Geographic variation in toads of the *debilis* group of *Bufo*. Field & Lab. **4** 1951 pp. 141–160 3 pls. 1 map.

Sanders, O., see Bragg, A. N.

Sanders, R. T., see Woodbury, A. M.

952.—Sandow, A. & Karczmar, A. G. Effect of iodoacetate on changes in muscular latency induced activity. Amer. Journ. Physiol. **163** 2 1950 pp. 247–259. [Not seen].

953.—Santa, B. Il fenomeno dell'iperrigenerazione in uno studio sperimentale sulla coda di larve di *Hyla arborea*. [English summary]. Arch. Zool. Torino **36** 1951 pp. 105–132 1 pl. 5 figs.

954.—Sarkar, N. K. Action mechanism of cobra venom, cardiotoxin and allied substances on muscle contraction. Proc. Soc. exp. Biol. N.Y. **78** 1951 pp. 469–471 tables.

955.—Sarkar, N. K. & Maitre, S. R. Action of cobra venom and cardiotoxin on gastrocnemius-sciatic preparation of a frog. Amer. J. Physiol. **163** 1950 pp. 209–11 1 table.

956.—Saroun, J. *Coelopeltis monopessulana* (lacertina) a *Coluber longissimus* (užovka Aesculapova) a zajeti. [The feeding habits of *Coelopeltis lacertina* and *Coluber longissimus*]. Akveristické Listy **23** 1951 pp. 32–33.

Sasaki, T., see Ueda, E.

957.—Savage, D. E. Report on fossil vertebrates from the Upper Magdalena Valley, Colombia. Science **114** 1951 pp. 186–187.

958.—Savage, J. M. Studies on the lizard family Xantusiidae, II: Geographical variation in *Xantusia riversiana* from the Channel islands of California. J. Wash. Acad. Sci. **41** 1951 pp. 357–360 tables.

959.—Savage, R. M. Feeding mechanisms in Anuran tadpoles. Nature, Lond. **166** 1950 p. 155.

960.—Sawyer, W. H. Effect of posterior pituitary extract on permeability of frog's skin to water. *Amer. J. Physiol.* **164** 1951 pp. 44-48. [Not seen].

961.—Sawyer, W. H., Travis, D. F. & Levinsky, N. G. Identity and specificity of frog water-balance principle of posterior pituitary extract. *Amer. J. Physiol.* **163** 1950 pp. 364-369 2 figs. tables.

962.—Scharrer, E. Neurosecretion. A relationship between the parathyroid and the paraventricular nucleus in the garter snake (*Thamnophis* sp.). *Biol. Bull. Wood's Hole* **101** 1951 pp. 106-113 8 figs.

963.—Schenk, R. Ueber Defektoperationen an der dorsalen Urmundlippe junger Gastrulae von *Triton alpestris*. *Rev. suisse Zool.* **58** 1951 pp. 529-537 5 figs.

964.—Schetty, P. Die Puffotter *Bitis arietans* Merrem. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 107-108 1 fig.

965.—Schiela, W. Fütterungsprobleme bei Schlangen. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 81-82 1 fig.

966.—Schindewolf, O. H. Der Leitfactor im Geologie und Paläontologie. *Stuttgart* 1950 pp. 1-114 18 text-figs. 3 tables.

Schjeide, O. A., see Allen, B. M.

967.—Schmelcher, D. & Hellmich, W. Über eine merkwürdige Larve eines Feuersalamanders. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 300-302 2 figs.

968.—Schmidt, K. P. Two new *Thalassemyd* turtles from the cretaceous of Arkansas. *Geol. Series Chicago Mus.* **8** 11 1944 pp. 63-74 figs.

969.—Schmidt, K. P. Annotated bibliography of marine ecological relations of living amphibians and reptiles (except turtles). *Mar. Life* **1** 9 1951 pp. 43-54.

970.—Schmidt, K. P. The Amphibia and Pisces in the First Edition of the *Systema Naturae*. *Copeia* **1951** pp. 2-7 5 tabs.

971.—Schmidt, K. P. The Hunter lizard pistol. *Copeia* **1951** p. 305 1 fig.

972.—Schmidt, K. P. & Conant, R. Proposed determination under the plenary powers of the species to which the trivial name "*sirtalis*" Linnaeus, 1758 (as published in the binominal combination "*Coluber sirtalis*") (Class Reptilia) is to be applied. *Bull. Zool. Nomencl.* **2** 1951 pp. 67-68.

973.—Schmidt, K. P. & Inger, R. F. Amphibians and reptiles of the Hopkins-Branner Expedition to Brazil. *Fieldiana, Zool.* **31** 1951 pp. 439-465.

974.—Schneider, D. Die lokale Reizung und Blockierung im Inter-nosodium der isolierten markhaltigen Nervenfasern des Frosches. *Z. vergl. Physiol. Berlin* **32** 1950 pp. 507-529 11 figs.

Schönmann, W., see Baltzer, F.

975.—Schopf, C., Blodorn, H. K., Klein, D. & Seitz, G. Zur Konstitution des Salamandars. *Chem. Ber.* **83** 4 1950 pp. 372-390. [Not seen].

Schotté, O. E., see Hall, A. B.

976.—Schöttler, W. H. A. Toxicity of the principle snake venoms of Brazil. *Amer. J. trop. Med.* **31** 1951 pp. 489-499 3 figs.

977.—Schöttler, W. H. A. Antigen-antibody relations in the present antivenin production of Brazil. *Amer. J. trop. Med.* **31** 1951 pp. 500-509 1 fig.

978.—Schöttler, W. H. A. Parasp-specific action of bothropic and crotalic antivenins. *Amer. J. trop. Med.* **31** 1951 pp. 836-841.

979.—Schreiber, B. Ulteriori osservazioni sulla induzione ossea negli anfibii per mezzo di estratti alcolici di' osso. *Boll. Soc. ital. Biol. sper.* **26** 1950 pp. 526-528.

980.—Schreiber, V. & Schreiberová, O. Réaction de Brunn chez les axolotls. *C.R. Soc. Biol. Paris* **145** 1951 pp. 619-620 1 graph.

Schreiberová, O., see Schreiber, V.

981.—Schroder, R. C. Hibernation of blue racers and bull snakes in western Illinois. *Nat. Hist. Misc. Chicago No.* 75 1950 pp. 1-2 1 fig.

982.—Schroder, R. C. A range extension for *Eumeces laticeps*. *Herpetologica* **7** 1951 p. 172.

983.—Schuh, F. Das Warmblüterproblem in der Paläontologie. *Paläont. Z.* **24** 1951 pp. 194–200 1 text-fig.

984.—Schweizer, H. Über eine der *Vipera aspis hugyi* Schinz sehr nahestehende Südalpine Population von *Vipera aspis aspis* (L.). *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 78–80 5 figs.

Schwenkmeyer, R. C., see Brattstrom, B. H.

985.—Scortecci, G. Biologia del Tibesti. *Ann. Mus. libico Stor. nat.* **2** 1940 pp. 257–275 2 figs.

986.—Scortecci, G. Reptilia, Amphibia. *Miss. Biol. Sagan-Omo Roma Zool.* **1** 1943 pp. 267–305 5 figs. pp. 307–336 5 figs.

Scudder, C., see Morrison, P. R.

987.—Segundo (h.) J. P. Acción de las dosis crecientes de NU 683 sobre la excitabilidad neuromuscular del sapo *Bufo arenarum* H. *Arch. Soc. Biol. Montevideo* **17** 3–4 1951 pp. 76–82 tables. [English summary].

988.—Segundo, J. P. & Patetta-Queirolo, M. A. Acción nel tolserol sobre la excitabilidad neuromuscular del sapo (*Bufo arenarum* H.). *Arch. Soc. Biol. Montevideo* **18** 1–2 1951 pp. 20–25 tables. [English summary].

989.—Seibert, H. C. Population density of snakes on Penikese Island, Massachusetts. *Copeia* **1951** p. 314.

Seitz, see Schopf, C.

990.—Sekoguti, Y. Studies on the carbohydrate metabolism in the eye. II. On the metabolism of glucose in the frog-retina. *Annot. zool. jap.* **23** 1950 pp. 194–199 4 figs.

991.—Selckmann, A. Wood Turtle —Roberts Id., Md. *Clemmys insculpta*. [Photograph only]. *Maryland Nat.* **20** 4 1950 p. 66 photograph.

992.—Sentein, P. La podophylline, inhibiteur du clivage et de la polarité fusoriale dans l'oeuf de Triton. *C.R. Soc. Biol. Paris* **145** 1951 pp. 667–668.

Serra, R. G., see Anthony, J.

993.—Serra, J. A. Fisiologia dos Pigmentos dos Vertebrados e em especial das Melaninas. [English summary]. *Mem. Mus. Zool. Univ. Coimbra* No. 208 1951 pp. 1–66 27 figs.

994.—Serventy, V. N. Natural history notes for the South coast. *W. Aust. Nat.* **3** 2 1951 pp. 34–36.

995.—[Severtzov, N. A.] Periodical phenomena in the life of mammals, birds, amphibians and reptiles of Voronezh province. *Moscow 1950* pp. 1–308 1 port 2 text-figs. 1 map. [In Russian].

Shane, G. M., see Wilber, C. G.

996.—Shanes, A. M. Drug and ion effects in frog muscle. *J. gen. Physiol. Baltimore* **33** 1950 pp. 729–744 2 figs. tables.

997.—Shannon, F. A. A Western subspecies of *Bufo woodhousii* hitherto erroneously associated with *Bufo compactilis*. *Bull. Chicago Acad. Sci.* **8** 15 1949 pp. 301–312 1 fig.

998.—Shannon, F. A. Notes on a herpetological collection from Oaxaca and other localities in Mexico. *Proc. U.S. nat. Mus.* **101** 1951 pp. 465–484 3 figs.

999.—Shaw, C. E. Male combat in American Colubrid snakes with remarks on combat in other Colubrid and Elapid snakes. *Herpetologica* **7** 1951 pp. 149–168 8 figs.

Sheehan, D., see Pick, J.

Shen, S. E., see Boell, E. J.

1000.—Sherman, J. K. Preliminary report of electron microscope studies on structure of visual cells of *Rana pipiens*. [Abstract]. *Anat. Rec.* **109** 1951 p. 383.

Shermetieva-Brunst, E. A., see Brunst, V. V.

1001.—Shikama, T. *Teilhardsaurus* and *Endotherium*, new Jurassic Reptilia and Mammalia from the Husin coalfield, South Manchuria. *Proc. Japan Acad.* **23** 1–11 1947 pp. 76–84 5 figs.

Shikama, T., see Yabe, H.

Shinowara, G. Y., see Reinhart, H. L.

1002.—[Shmalgauzen, O. I.] Conditions of formation and differentiation of olfactory organs in the embryonal development. *C.R. Acad. Sci. URSS*, n.s. **76** 3 1951 pp. 469–471 figs. [In Russian].

1003.—Shreve, B. A new snake of the Genus *Tropidodipsas* from Honduras. [*T. carri*, **sp. nov.**]. *Copeia* **1951** p. 52.

1004.—Shuler, E. W. A new elasmour from the Eagle Ford shale of Texas. *Fondren Sci. Ser. No. 1* pt. 2 **1950** pp. 1-32 27 figs.

Shvartz, S. S., see Pavlinin, V. N.

1005.—Sichel, G. Ulteriori osservazioni istologiche sulle cellule pigmentate del fegato di *Testudo graeca*. *Boll. Soc. ital. Biol. sper.* **25** 11-12 **1949** pp. 1507-1509.

1006. Sichel, G. Sulle cellule pigmentarie della lingua di *Lacerta muralis*. *Monit. zool. ital.* **59** Suppl. **1951** pp. 306-.

1007.—Sick, H. Beobachtungen an dem Stachelschwanz-Leguan, *Hoplocercus spinosus*. *Natur u. Volk* **81** **1951** pp. 30-35 4 figs.

1008.—Sidman, R. L. & Singer, M. Stimulation of forelimb regeneration in the newt, *Triturus viridescens*, by a sensory nerve supply isolated from the central nervous system. *Amer. J. Physiol.* **165** **1951** pp. 257-260.

1009.—[Sidorov, O. A.] Experimentally obtained organogenesis of the internal ear in advanced stage of development. *Memor. Vol. A. A. Zavarzin Acad. Sci. Moscow* **1948** pp. 418-436 15 figs. [In Russian].

1010.[Sidorova, V. F.] Regeneration of X-rayed limb in Axolotl after grafting other type of tissue. *C.R. Acad. Sci. URSS. n.s.* **81** 2 **1951** pp. 297-299. [In Russian].

1011.—Siekmann, J. M. A survey of the tadpoles of Louisiana. *Abstr. Theses Tulane Univ.* **1949** p. 100 [Not seen].

1012.—Simonson, W. E. Courtship and mating of the Foxsnake, *Elaphe vulpina vulpina*. *Copeia* **1951** p. 309.

1013.—Sinclair, R. M. Notes on recently transformed larvae of the salamander *Eurycea longicauda guttolineata*. *Herpetologica* **7** **1951**, p. 68.

1014.—Sinclair, R. M. Notes on Tennessee snakes of the genus *Haldea*. *Herpetologica* **7** **1951** p. 145.

1015.—Sinclair, R. M. *Lampropeltis calligaster* in Tennessee. *Herpetologica* **7** **1951** p. 174.

1016.—Sinclair, R. M. Notes on the cave salamander, *Eurycea lucifuga* Rafinesque. Notes on the reproduction of the ground snake *Haldea v. valeriae* (Baird and Girard). *J. Tenn. Acad. Sci.* **26** **1951** p. 148. [Abstract].

1017.—Singer, M. Induction of regeneration of forelimb of the frog by augmentation of the nerve supply. *Proc. Soc. exp. Biol.* **76** **1951** pp. 413-416 4 figs.

1018.—Singer, M. & Andrews, J. S. The adepidermal reticular network of the skin of the urodele, *Triturus*. [Abstract]. *Anat. Rec.* **109** **1951** pp. 346-347.

Singer, M., see Sidman, R. L.

1019.—Singer, T. P., & Kearney, E. B. The L-amino acid oxidases of snake venom. II. Isolation and characterization of homogeneous L-amino and oxidase. *Arch. Biochem.* **29** 1 **1950** pp. 190-208 illust. [Not seen].

1020.—Slevin, J. R. The San Felipe Road—A snake hunter's disappointment. *Herpetologica* **7** **1951** p. 191.

1021.—Slotwinski, J. O Czynności Wydzielniczej komórek zrebowych nablonka zymslowego blony wechowej plazow, Gadow, ptakow i ssakow. (Sur la fonction secretrice des cellules de soutien, dans l'épithélium sensoriel de la muqueuse olfactive des Batraciens, Reptiles, Oiseaux et Mammifères). *Prace Kom. med. pozn. Tow. Prayj. Nauk.* **VII** 3 **1949** pp. 215-317 pls. [French resumé].

1022.—Sluczewski, A. & Roth, P. C. J. Action des hormones en fonction du pH du milieu, sur la métamorphose et le développement de l'axolotl (*Amblystoma tigrinum* Green). Injections de Thyroxine racémique et d'antuitrine S. *C.R. Soc. Biol. Paris* **145** **1951** pp. 387-389.

1023.—Sluys, M. La système du Karroo dans le Bassin du Congo. *Bull. Inst. Roy. Colon. Belg.* **21** 4 **1950** pp. 979-1019.

Smart, E. W., see Woodbury, A. M.

- 1024.**—**Smith, A. G.** Making a collection of amphibians and reptiles. Contr. Dep. Biol. Sci. Loyala Univ. No. 1 1951 pp. 1–5 2 figs.
- 1025.**—**Smith, A. G.** Key to the amphibians and reptiles of the Chicago area. Contr. Dep. Biol. Sci. Loyala Univ. No. 7 1951 pp. 1–4.
- 1026.**—**Smith, C. G.** Regeneration of sensory olfactory epithelium and nerves in adult frogs. Anat. Rec. **109** 1951 pp. 661–671 11 figs.
- 1027.**—**Smith, C. L.** The temperature-pulse rate curve of the isolated frog's heart (*Rana temporaria*). J. exp. Biol. **28** 1951 pp. 141–146 11 figs.
- 1028.**—**Smith, G.** Regeneration of sensory olfactory epithelium and nerves in adult frogs. [Abstract]. Anat. Rec. **109** 1951 p. 347.
- 1029.**—**Smith, H. M.** The identity of the Ophidian name *Coluber eques* Reuss. Copeia **1951** pp. 138–140 1 pl.
- 1030.**—**Smith, H. M.** A new species of *Leiopisma* (Reptilia: Sauria) from Mexico [*L. caudaequinae*, **sp. nov.**]. Univ. Kansas Sci. Bull. **34** 1 1951 pp. 195–200.
- 1031.**—**Smith, H. M.** The identity of *Hyla underwoodi* Auctorum, of Mexico. Herpetologica **7** 1951 pp. 184–190.
- 1032.**—**Smith, H. M. & Kennedy, J. P.** *Pituophis melanoleucus ruthveni* in Eastern Texas and its bearing on the status of *P. catenifer*. Herpetologica **7** 1951 pp. 93–96 photo.
- 1033.**—**Smith, H. M. & Langebartel, D. A.** A new geographic race of leaf-nosed snake from Sonora, Mexico. Herpetologica **7** 1951 pp. 181–184 1 tab.
- 1034.**—**Smith, H. M. & List, J. C.** The occurrence of digital pads as an anomaly in the bull frog. Turtox News **29** 7 1951 [2 pp.] fig.
- 1035.**—**Smith, H. M. & Reeve, W.** The generic name of the Horned lizards. Herpetologica **7** 1951 p. 53–55.
- 1036.**—**Smith, H. M. & Smith, P. W.** A new snake (*Tantilla*) from the isthmus of Tehuantepec, Mexico [*T. triseriata*, **sp. nov.**]. Proc. Biol. Soc. Wash. **64** 1951 pp. 97–100 2 figs.
- Smith, H. M.**, see Reese, R. W.
- Smith, H. M.**, see Sanders, O.
- Smith, H. M.**, see Smith, P. W.
- Smith, H. M.**, see Woodbury, A. M.
- 1037.**—**Smith, M. A.** Frank Wall, 1868–1950 [Obituary]. Copeia **1951** pp. 113–114 photo.
- 1038.**—**Smith, M. [A.]** The British Amphibians and Reptiles, London (Collins) 1951 pp. XIV + 318, 32 pls. (16 col.) 88 figs.
- 1039.**—**Smith, M. [A.]** The Wall lizard (*Lacerta muralis*) in England. Brit. J. Herpetol. **1** 5 1951 pp. 99–100.
- 1040.**—**Smith, M. [A.]** Unusual size of the Slow-worm (*Anguis fragilis*) and the Adder (*Vipera berus*) in the British Isles. Brit. J. Herpetol. **1** 5 1951 p. 100.
- 1041.**—**Smith, M. [A.]** On a collection of amphibians and reptiles from Nepal. Ann. Mag. nat. Hist. (12) **4** 1951 pp. 726–728.
- 1042.**—**Smith, P. W. & Burger, W. L.** Additional noteworthy herpetological records for Illinois. Nat. Hist. Misc. Chicago No. 56 1950 pp. 1–3.
- 1043.**—**Smith, P. W.** A new frog and a new turtle from the Western Illinois Sand Prairies. Bull. Chicago Acad. Sci. **9** 9 1951 pp. 189–199 2 pls. 1 fig.
- 1044.**—**Smith, P. W. & Burger, W. L.** Herpetological results of the University of Illinois Field Expedition, Spring 1949. III. Sauria. Trans. Kansas Acad. Sci. **53** 1950 pp. 165–175.
- 1045.**—**Smith, P. W. & H. M.** A new lizard (*Sceloporus*) from Oaxaca, Mexico [*S. spinosus apicalis*, **subsp. nov.**]. Proc. Biol. Soc. Wash. **64** 1951 pp. 101–103.
- 1046.**—**Smith, P. W. & H. M.** Notas sobre algunos anfibios y reptiles colectados en el Estado de Chiapas. An. Inst. Biol. Univ. Méx. **22** 1951 pp. 557–564.
- Smith, P. W.**, see Smith, H. M.
- Smith, P. W.**, see Walley, H.
- Smith, R. G.**, see Philpot, V. B.
- 1047.**—**Sochurek, E.** Die Hornotter (*Vipera a. ammodytes* L.) in Kärnten. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 131–134 1 fig.

1048.—Solman, V. E. F. Limnological investigation of Fundy (New Brunswick) National Park, 1948. Wildl. Mgmt. Bull. Can. Ser. 3 No. 2 1950 pp. 1-48 32 figs. 8 tabs. 1 map.

1049.—Sonnenschein, A. Die Evolution des Kniegelenkes innerhalb der Wirbeltierreihe. Acta Anat. **13** 1951 pp. 288-328 12 figs.

1050.—Soot-Ryen, T. Krypdyr og padder i Nord-Norge. Fauna, Oslo **1** 1948 pp. 76-84.

Soucy, L. B., see McCarthy, E. G.

Souza, see Ribeiro d'Souza.

1051.—Spar, I. L. Antigenic differences among early embryonic stages of *Rana pipiens*. [Abstract]. Anat. Rec. **111** 1951 p. 451.

1052.—Speidel, C. C. The occurrence of *Balantidium* as a lethal parasite in the toad tadpole. [Abstract]. Anat. Rec. **111** 1951 p. 583.

1053.—Spiegel, M. A method for the removal of the jelly and vitelline membrane of the egg of *Rana pipiens*. [Abstract]. Anat. Rec. **111** 1951 p. 544.

1054.—Spilker, C. W. & McCashland, B. W. The effect of sodium cyanide and amino acids on the turtle heart. Proc. Nebraska Acad. Sci., Abstracts of 61st ann. meeting. [Not seen].

1055.—Špinar, Z. Krytolebec *Melanerpeton longicaudatum* J. Augusta, 1936. Rozpr. České Akad. **59** 29 1950 pp. 1-26

1056.—Špinar, Z. Krytolebec *Melanerpeton pusilluin* A. Fritsch, 1878. Rozpr. České Akad. **60** 10 1951 pp. 1-19 2 pls. 6 figs.

Spurway, H., see Callan, H. G.

1057.—Stabler, R. M. Some observations on two Cottonmouth Moccasins made during twelve and fourteen years of captivity. Herpetologica **7** 1951 pp. 89-92.

Stacy, E. M., see Greulich, V. A.

1058.—Staesche, Von K. Eine meerschildkröte aus dem nordwest-deutschen Unterlozän. Z. dtsh. geol. Ges. **99** 1947 pp. 78-95 text-figs. 1-3.

Stammreich, H., see Eichbaum, F. W.

Standen, O. D., see Way, W. D.

1059.—Stebbins, R. C. Amphibians of Western North America, Berkeley and Los Angeles (Univ. California Press) 1951 pp. XVIII + 539 64 pls. 35 figs.

1060.—Stebbins, R. C. & Lowe, Jr., C. H. Subspecific differentiation in the Olympic Salamander *Rhyacotriton olympicus*. Univ. Calif. Publ. Zool. **50** 1951 pp. 465-484 1 pl. 1 fig.

1061.—Stefanelli, A. Risultati del metodo comparativo-ecologico nello studio dell'apparato mauthneriano degli Ittiopsidi. Boll. Zool. **16** (1949) pp. 139-144.

1062.—Stefanelli, A. Some comments on regeneration in the central nervous system. Union Internat. Sci. biol. Paris Sér. B (Colloques) No. 6 1950 pp. 210-211.

1063.—Stefanelli, A. Ciclo vitale e citomorfosi delle cellule nervose dei vertebrati. R.C. Accad. Lincei (8) **10** 2 1951 pp. 159-164 1 fig.

1064.—[Stehelkunov, S. I. & Latisheva, N. P.] Topography of the conjunctiva tissue. Memor. Vol. A. A. Zavarzim Acad. Sci. Moscow 1948 pp. 174-192 10 figs. [In Russian].

1065.—Steinert, M. La synthèse de l'acide ribonucléique au cours du développement embryonnaire des batraciens. Bull. Soc. Chim. biol. **33** 5-6 pp. 549-554 3 figs.

1066.—Steinert, M. Purines libres e mononucléotides dans l'embryon de batracien. [English summary]. Experimentia **7** 9 1951 pp. 342-343.

1067.—Steinmetz, C. A. Some effects of 2-thiouracil on *Rana clamitans* larvae. Proc. Indiana Acad. Sci. **60** 1951 pp. 324-328 1 fig. tables.

1068.—Stepanek, O. Obojzivelnosti a plazi zemi ceskych se zretelem I. faune stredni evropy. [The amphibians and reptiles of the Czech countries (Bohemia, Moravia and Silesia) in relation to the fauna of central Europe]. [French summary]. Archiv. Prirodovedecky Vyzkuz Cech. **1** 1 1949 pp. 1-121 maps figs. [Not seen].

1069.—Stephenson, E. M. The anatomy of the head of the New Zealand Frog, *Leiopelma*. Trans. Zool. Soc. Lond. **27** 1951 pp. 255-305 20 figs.

1070.—Stephenson, N. G. Observations on the development of the Amphicoelous Frogs, *Leiopelma* and *Ascapus*. J. Linn. Soc. (Zool.) **42** 1951 pp. 18–28 3 pls.

1071.—Stephenson, N. G. On the development of the chondrocranium and visceral arches of *Leiopelma archeyi*. Trans. Zool. Soc. Lond. **27** 1951 pp. 203–253 4 pls. 12 figs.

1072.—Sterba, G. Untersuchungen un der Milz des krallenfrosches (*Xenopus laevis* Daudin). Gegenbaur Morphol. Jahrb. Beit. Anat. Funk. Syst. **90** 3 1950 pp. 221–248 illus. [Not seen].

1073.—Sternberg, C. M. Complete sketch of *Leptoceratops gracilis* Brown from the Upper Edmonton Member on Red Deer River, Alberta. Bull. nat. Mus. Can. No. 123 1951 pp. 225–255 12 figs.

1074.—Sternberg, C. M. The lizard *Chamops* from the Wapiti formation of Northern Alberta; *Polyodontosaurus grandis*. Not a lizard. Bull. nat. Mus. Can. No. 123 1951 pp. 256–258 2 figs.

1075.—Stickel, L. F. Wood mouse and box turtle populations in an area treated annually with DDT for five years. J. Wildlife Manag. **15** 1951 p. 161–164 tables.

1076.—Stickel, W. H. Distinctions between the snake genera *Contia* and *Eirenis*. Herpetologica **7** 1951 pp. 125–131.

1077.—Stickler, F. Perleidechsen: Pflege und Zucht. Aquar. Terrar. Z. Stuttgart **4** 1951 pp. 130–131 2 figs.

1078.—Stille, W. T. The loss of jaw-tags by toads. Nat. Hist. Misc. Chicago No. 74 1950 pp. 1–2.

1079.—Stock, A. Enige gevallen van gezwollen en ontstekingen bij poikilotherme vertebraten, een bijdrage tot de vergelijkende pathologie. Thesis. Utrecht. 1950 176 pp. graphs illus. Gen. Path. & Pathol. anat. Sect. V. Excerpta Medica **iv** 1 1951. [Not seen].

1080.—Stone, L. S. Return of vision and functional polarization in the retinae of transplanted salamander eggs. Exper. Cell Res. N.Y. Suppl. No. 1 1949 pp. 582–584.

1081.—Stone, L. S. A color motion picture showing factors controlling lens regeneration from cells of the dorsal iris in salamander eyes. [Abstract]. Anat. Rec. **109** 2 1951 p. 414.

1082.—Stop-Bowitz, C. Norske padder. Fauna, Oslo **3** 1950 pp. 15–20.

Storm, R. M., see Dunlap, D. G.

Stoudemayer, M. B., see Baker, C. L.

1083.—Stroink, H. H. Über den Einfluss von Äthylurethan auf die Entwicklung und Teratogenese von Amphibienkeimen. Arch. EntwMech. Org. **145** 1951 pp. 125–142 6 figs.

1084.—Stuart, L. C. The herpetofauna of the Guatemalan Plateau, with special reference to its distribution on the Southwestern Highlands. Contr. Lab. Vertebr. Biol. Univ. Mich. No. 49 1951 pp. 1–71 7 pls. 11 tabs. 2 maps.

1085.—Stuart, L. C. The distributional implications of temperature tolerances and hemoglobin values in the toads *Bufo marinus* (Linnaeus) and *Bufo bocourti* Brocchi. Copeia **1951** pp. 220–229 3 figs. 1 tab.

Stuart, L. C., see Dunn, E. R.

Sunaga, Y., see Takisawa, A.

1086.—Suomalainen, P. & Voipio, P. Suomen selkärangaiset—Vertebrata fennica. Luonnon Tutk. **54** 3 1950 pp. [1–8].

Sutton, G. K. de, see Cattaneo, P.

1087.—Suvatti, C. Fauna of Thailand, Bangkok (Dept. of Fisheries) 1950 pp. ii + 1100 frontis.

1088.—Suzuki, H. K. Recent additions to the records of the distribution of the amphibians in Wisconsin. Trans. Wis. Acad. Sci. Arts Lett. **40** 2 1951 pp. 215–234 18 maps.

1089.—Swinton, W. E. On Dinosaurs. Sci. J. R. Coll. Sci. **21** 1951 pp. 48–56.

1090.—Swinton, W. E. Gideon Mantell and the Maidstone Iguanodon. Notes Rec. Roy. Soc. Lond. **8** 2 1951 pp. 261–276 1 fig.

1091.—Szarski, H. Remarks on the blood-vascular system of the frog *Leiopelma hochstetteri* Fitzinger. Trans. Proc. roy. Soc. N.Z. **79** 1951 pp. 140–147 4 figs.

Travis, D. F., see Sawyer, W. H.

1092.—Takisawa, A. & Sunaga, Y. Über die Entwicklung des M. depressor mandibulae bei Anuren im Laufe des Metamorphose. Okajimas Folia Anat. Japonica **23** 4-5 1951 pp. 273-293. [Not seen].

Talluri, M. V., see Padoa, E.

1093.—[Tamarin, V. G.]. Regeneration of fractured bones in Amphibia. Memor. Vol. A. A. Zavarzin Acad. Sci. Moscow 1948 pp. 292-312 15 figs. [In Russian].

1094.—Tamasige, M. Membrane and sarcoplasm resistance in an isolated frog muscle fibre. Annot. zool. jap. **23** 1950 pp. 125-134 6 figs.

1095.—Tanner, V. M. Pacific Islands herpetology No. IV. Admiralty Islands. Gt. Basin Nat. **11** 1951 pp. 1-10.

1096.—Tanner, V. M. Pacific Islands herpetology, No. V. Guadalcanal, Solomon Islands: A check list of species. Gt. Basin Nat. **11** 1951 pp. 53-86 1 fig.

1097.—Tanner, W. W. *Lampropeltis doliata* rediscovered in Arizona. Herpetologica **7** 1951 p. 180.

Tanner, W. W., see Fitch, H. S.

1098.—Taylor, E. H. The rediscovery of the toad *Bufo simus* Schmidt. Copeia **1951** pp. 134-137 1 pl.

1099.—Taylor, E. H. Two new genera and a new family of tropical American frogs. Proc. biol. Soc. Wash. **64** 1951 pp. 33-37.

1100.—Taylor, E. H. Egg-laying behavior of an oriental Agamid lizard. Herpetologica **7** 1951 pp. 59-60.

1101.—Taylor, E. H. A new veracrucian salamander [*Bolitoglossa veracrucis*, sp. nov.]. Univ. Kansas Sci. Bull. **34** 1 1951 pp. 189-193 1 fig.

1102.—Taylor, E. H. A brief review of the snakes of Costa Rica. Univ. Kansas Sci. Bull. **34** 1 1951 pp. 3-188 23 pls. 7 figs.

1103.—Taylor, E. H. Concerning Oligocene Amphisbaenid reptiles. Univ. Kansas Sci. Bull. **34** 1 1951 pp. 521-579 10 pls. 3 figs.

1104.—[Tcheredeeva, E. A.]. Histological peculiarities of the musculature in the lymphatic hearts in frogs. C.R. Acad. Sci. URSS. n.s. **76** 6 1951 pp. 897-900 figs. [In Russian].

1105.—[Tchernov, S. A.]. III. Reptilia. IV. Amphibia. Zhivotnui Mir U.S.S.R. **3** 1950 pp. 140-152, 153-161 7 figs. [In Russian].

1106.—Tenius, K. Jahresbericht der Arbeitsgemeinschaft Amphibien und Reptilien in der A.Z. H.N. 1948. Beitr. Naturk. Niedersachs. No. 6 1949 pp. 16-23.

1107.—Tenius, K. Zum Vorkommen der beiden Rassen des Feuersalamanders in Niedersachsen. Beitr. Naturk. Niedersachs. **3** 3 1951 pp. 66-68.

1108.—[Terentjev, P. V.]. Influence of the climatic temperature on the size of the snakes and amphibians. Bull. Soc. Nat. Moscow Biol. **56** (2) 1951 pp. 14-23 11 figs. [In Russian].

Thieulin, R., see Rudolph, G.

Thompson, D. H., see Mann, R.

1109.—Thorborg, J. V. & Hansen, K. The use of *Xenopus laevis*, *Bufo bufo*, and *Rana esculenta* as test animals for gonadotrophic hormones. III. Quantitative investigations on the sensitivity of the animals to chorionic gonadotrophin. Acta Endocrinology, Copenhagen **6** 1 1951 pp. 51-66 3 figs.

1110.—Thornton, C. S. Beryllium inhibition of regeneration. III. Histological effects of beryllium on the amputated fore limbs of *Amblystoma* larvae. J. exp. Zool. **118** 1951 pp. 467-493 20 figs.

1111.—Thornton, C. S. Histological effects of beryllium on regeneration. [Abstract]. Anat. Rec. **111** 1951 p. 473.

1112.—Thornton, C. S. & Kraemer, D. W. The effect of injury on denervated unamputated fore limbs of *Amblystoma* larvae. J. exp. Zool. **117** 1951 pp. 415-439 13 figs.

Tiengo, M., see Capraro, V.

1113.—Tihen, J. A. Two races of *Elgaria Kingii* Gray. Trans. Kansas Acad. Sci. **51** 1948 pp. 299-301.

- 1114.—Tihen, J. A.** A new *Gerrhonotus* from San Luis Potosi. [*G. liocephalus loweryi*, **subsp. nov.**]. Trans. Kansas Acad. Sci. **51** 1948 pp. 302–305.
- 1115.—Tihen, J. A.** Anuran remains from the Miocene of Florida, with the description of a new species of *Bufo*. [*Bufo praeivius*, **sp. nov.**]. Copeia **1951** pp. 230–235 2 pls.
- Tikkanen, T.**, see Toivonen, S.
- Tin, S.**, see To, S.
- 1116.—Tinkham, E. R.** On the recognition of two lower California horned lizards. Herpetologica **7** 1951 pp. 169–172 2 figs.
- 1117.—Tinkle, D. W.** Peculiar behavior of indigo snakes in captivity. Copeia **1951** pp. 77–78.
- 1118.—Tinkle, D. & Curtis, L.** The Coal Skink, *Eumeces anthracinus* Baird, in Texas. Field & Lab. **19** 1951 pp. 85–86.
- Tinkle, D.**, see Curtis, L.
- 1119.—Titschack, E.** Beiträge zur Fauna Perus Bd. **1** Jena (Gustav Fischer) 1951 pp. iv + 405 1 map 223 figs.
- 1120.—To, S.** Statistical studies on victims poisonous snake bites in Formosa. J. Med. Ass. Formosa **60** 8–9 1941 pp. 1477–1824.
- 1121.—To, S. & Chin, K.** Experimentelle Untersuchungen über die Wirkung des Giftes von *Trimeresurus mucrosquamatus* (Cantor) auf den Kohlenhydrathanshalt bei Kaninchen. Jap. J. Med. Sci. IV Pharmacology **XIII** 3 1941 pp. 207–243.
- 1122.—To, S. & Uei, K.** Experimentelle therapeutische Verwendung des Giftes von *Naja naja atra* als analgetisches Mittel. J. Med. Ass. Formosa **42** 6 1943 pp. 667–673.
- 1123.—To, S. & Oh, Y.** Ueber die experimentelle therapeutische Anwendung des Giftes von *Naja naja atra* als analgetisches Mittel. J. Med. Ass. Formosa **42** 4 1943 pp. 376–389.
- 1124.—To, S. & Tin, S.** Toxikologische Untersuchungen betreffs des Giftes von *Bungarus multicinctus*. i. Teil. Allgemeine Intoxikationserscheinungen infolge experimenteller Injektion von Bungarusgift und dessen Wirkung auf Atmung und Blutdruck.
- ii. Teil. Wirkung des Bungarusgiftes auf ausgeschnittene Organe. J. Med. Ass. Taiwan **42** 1944 pp. 1–16 1–9.
- 1125.—Tobias, J. M.** Injury to membrane potentials in frog muscle after depleting potassium and producing other changes by soaking in potassium free salt solution or distilled water. J. cell. comp. Physiol. Philad. **36** 1950 pp. 1–13 1 fig tables.
- 1126.—Tobias, J. M.** Qualitative observations on visible changes in single frog, squid and other axones subjected to electrical polarization. J. cell. comp. Physiol. **37** 1951 pp. 91–105 1 fig.
- 1127.—Toivonen, S.** Verschiedenheit der Induktionsleistungen des Lebergewebes von hungrigem und gut ernährtem Meerschweinchen in Implantatversuch bei *Triturus*. Arch. Soc. zool.-bot. fenn. Vanamo **6** 1 1951 pp. 63–71 1 fig.
- 1128.—Toivonen, S., Harjola, O. & Tikkanen, T.** Über die Reaktionsempfindlichkeit von *Xenopus laevis* gegenüber dem Gonadotropen Chorionhormon zu verschiedenen Zeiten des Jahres. Ann. Chir. Gyn. Fenn. **40** 1951 pp. 103–107.
- 1129.—Tokunaga, C.** Albino frogs produced by artificial parthenogenesis. J. Hered. **40** 1949 pp. 279–281. [Not seen].
- 1130.—Tomlin, S. G. & Callan, H. G.** Preliminary account of an electron microscope study of chromosomes from newt oocytes. Quart. J. micr. Sci. **92** 1951 pp. 221–224 1 pl.
- 1131.—Töndury, G. & Cagianut, B.** Zur Wirkung der Sexualhormone auf Wachstum und Differenzierung. Biol. Rev. **26** 1951 pp. 28–58 13 figs. [English summary].
- 1132.—Trampusch, H. A. L.** Regeneration inhibited by X-rays and its recovery. Proc. K. ned. Akad. Wet. **54C** 4 1951 pp. 373–385 9 figs.

1133.—Tressler, D. K. & Lemon J. McW. Marine products of commerce 2nd edn. N.Y. pp. i-xiii 1-782 figs.

Tribe, M., see Fisk, A.

Trinquier, E., see Ceccaldi, J.

Truyola Santonja, J., see Crusafont Pairo, M.

Tsai, C., see Chen, T. I.

Tschumi, O., see Hescheler & Kuhn.

Tschumi, P., see Bretscher, A.

1134.—Tumarkin, A. On the evolution of the auditory perilymphatic system. *J. Laryngology & Otology* **62** 11 1948 pp. 691-701 figs.

1135.—Tumarkin, A. The evolution of the auditory conducting apparatus. *Proc. Roy. Soc. Medicine* **41** 12 1948 pp. 877-888 (Otology Section pp. 53-64) figs.

1136.—Tusques, J. Effet mélano-constricteur de la paraoxypropionphénone sur les têtards de *Rana temporaria*. *C.R. Soc. Biol. Paris* **145** 1951 pp. 406-407.

1137.—Tusques, J. Insensibilité a la thyroxine des cellules de Mauthner des larves d'Amphibiens Anoures et persistance de ces cellules chez les Anoures adultes. *C.R. Soc. Biol. Paris* **145** 1951 pp. 1565-1566.

1138.—Ueda, E., Sasaki, T. & Peng, M.-T. A chemical study of Formosan cobra venom. *Mem. Fac. Medicine Taiwan Univ.* **1** 4 1951 pp. 194-199.

Uei, K., see To, S.

1139.—Ukino, T. Ueber den Einfluss der wichtigen formosanischen Schlangengifte auf die Gewebsatmung der Kaninchenleber.

1. Mitteilung: Wirkung des Giftes von *Trimeresurus mucrosquamatus*.
2. Mitteilung: Do., *T. gramineus*.
3. Mitteilung: Do., *Akistrodon acutus*.
4. Mitteilung: Do., *Naja naja atra*.
5. Mitteilung: Do., *Bungarus multicinctus*.

J. Med. Ass. Formosa **38** 5 1939 pp. 800-813 814-822 823-831 832-840 841-851.

1140.—[Umanski, E. E. & Kudokotzev, V. P.] The restoration of regeneration capacity in the amphibian limbs after X-raying. *C.R. Acad. Sci. URSS. n.s.* **76** 4 1951 pp. 605-608. [In Russian].

1141.—[Umanski, E. E. & Kudokotzev, V. P.] Stimulation of the regeneration process in the limb of reptiles with parathyroid hormone. *C.R. Acad. Sci. URSS. n.s.* **77** 3 1951 pp. 533-536. [In Russian].

1142.—[Umanski, E. E. & Kudokotzev, V. P.] Adaptation to regeneration of the reptilian extremities. *C.R. Acad. Sci. URSS. n.s.* **77** 6 1951 pp. 1119-1122 2 figs. [In Russian].

Umrath, K., see Müssbichler, A.

1143.—Underwood, G. On the distribution of snakes of the family Boidae. *Proc. Zool. Soc. London* **120** 1951 pp. 713-714.

1144.—Underwood, G. Pupil shape in certain Geckos. *Copeia* **1951** pp. 211-212 1 fig.

1145.—Underwood, G. Reptilian retinas. *Nature, Lond.* **167** 1951 pp. 183-185 2 figs.

1146.—Underwood, G. Introduction to the study of Jamaican reptiles. Part V. Chelonia pp. 209-213 figs. No. 46.

Part VII. Lizards (pt.) Geckonidae pp. 15-21 figs. No. 49.

Part VIII. Lizards Iguanidae pp. 57-65 figs No. 51.

Nat. Hist. Notes nat. Hist. Soc. Jamaica 1951.

Underwood, G., see Bellairs, A. d'A.

1147.—Urbain, A., Dechambre, E. & Piette, G. Septicémie due a *Clostridium oedematiens* type A, sur les tortues de la ménagerie des reptiles du Museum. *Bull. Mus. Hist. nat. Paris* (2) **23** 3 1951 pp. 247-248.

1148.—Ussing, H. H. Vandoptagelsen gennem padderens hud, belyst ved isotopforsøg. *Naturens Verden* **34** 1 1950 pp. 11-13. [Not seen].

1149.—Vagner, Z. Biologie drapkatky hladké (*Xenopus laevis* Daud.) a naše zkušenosti s jejím chovem. [How to breed in the mass *Xenopus laevis*]. *Akveristické Listy* **23** 1951 pp. 93-96 figs.

1150.—Valette, G. & Rossignol, P. Effets comparés de l'enlèvement de l'épinèvre et du traitement par la saponine sur la perméabilité du sciatique de grenouille aux ions calcium. C.R. Soc. Biol. Paris **145** 1951 pp. 1669–1671 2 figs.

1151.—Vallée, L. Dimorphisme sexuel des os du bassin chez *Triturus cristatus* Laurenti et *Triturus marmoratus*, Latreille. Bull. Soc. Zool. Fr. **76** 1951 pp. 200–204 3 figs. 2 tabs.

Van Dyke, R. H., see Detwiler, S. R.

1152.—Van Eeden, J. A. The development of the chondrocranium of *Ascapheus truei* Stejneger with special reference to the relations of the palatoquadrate to the neurocranium. Acta Zool., Stockh. **32** 1951 pp. 41–176 40 figs.

1153.—Vannini, E. Organogénèse des gonades et déterminisme du sexe chez les amphibiens et les amniotes. Arch. Anat. micr. Morph. exp. **39** 1951 pp. 295–313 8 figs.

1154.—Vanzolini, P. E. A systematic arrangement of the family Amphisbaenidae (Sauria). Herpetologica **7** 1951 pp. 113–123 figs.

1155.—Vanzolini, P. E. *Amphisbaena fuliginosa*. Contributions to the knowledge of the Brazilian lizards of the family Amphisbaenidae Gray, 1825. 6. On the geographical distribution and differentiation of *Amphisbaena fuliginosa* Linné. Bull. Mus. comp. Zool. Harvard **106** 1951 pp. 1–67 2 pls. 26 tabs. 7 maps.

1156.—Varde, M. R. The morphology and histology of the lung in snakes. J. Univ. Bombay N.S. **19B** 5 1951 pp. 79–89 4 pls.

1157.—Vaz, E. Instituto Butantan. São Paulo Brasil 1951 pp. 1–61 pls.

Vecchi, A. de., see Capraro, V.

Velardo, J. T., see Rosenbaum, R. M.

1158.—Vellard, J. Estudios sobre batracios andinos, la Memoria, El grupo *Telmatobius* y formas afines. Mem. Mus. Hist. nat. Prado No. 1 1951 pp. 3–89 8 pls.

1159.—[Vereyokaya, V. N.] The capacity of tissues in formation of improper structures. C.R. Acad. Sci. URSS. n.s. **78** 6 1951 pp. 1255–1258 3 figs. [In Russian].

Vernberg, F. J., see Hickman, C. P.

Vetas, B., see Woodbury, A. M.

1160.—Vialli, M. Lo strato cribroso nella pelle di *Rana esculenta*. R.C. Ist. lombardo **83** Cl. Sci. mat. nat. 1950 pp. 405–415.

Vialli, M., see Erspamer, V.

1161.—Vidal Beard, J. J. Hierro en venenos de serpientes. Arch. Farm. y Bioquim. Tucuman. **4** 4 1950 pp. 321–325. [Not seen].

1162.—Vignolo-Puglia, W. H. & Cayaffa-Bonifaz, J. J. Acción de la tiroxina sobre el corazón aislado de sapo (*Bufo arenarum* H.) Segunda comunacación : Acción sobre la respuesta a los iones potasio y calcio. Arch. Soc. Biol. Montevideo **18** 1–2 1951 pp. 43 46 2 figs. [English summary].

Vignolo-Puglia, W. H., see Cayaffa-Bonifaz, J. J.

1163.—Villee, C. A. & Duryee, W. R. Studies of phosphorus metabolism in ovarian eggs of the salamander, *Triturus pyrrhogaster*. [Abstract]. Biol. Bull. Wood's Hole **101** 1951 p. 231.

1164.—Villiers, A. Les serpents de l'Ouest Africain : Les serpents minute. Notes afr. No. 45 1950 pp. 23–26 19 figs.

1165.—Villiers, A. La collection de Serpents de l'I.F.A.N. Bull. Inst. franç. Afr. noire **13** 3 1951 pp. 813–836 pls.

Villiers, A., see Dekeyser, P. L.

1166.—Vilter, V. Valeur morphologique des photorécepteurs rétiniens chez la Hatterie (*Sphenodon punctatus*). C.R. Soc. Biol. Paris **145** 1951 pp. 20–23 2 figs.

1167.—Vilter, V. Organisation générale de la rétine nerveuse chez le *Sphenodon punctatus*. C.R. Soc. Biol. Paris **145** 1951 pp. 24–26 1 graph.

1168.—Vilter, V. Recherches sur les structures fovéales dans la rétine du *Sphenodon punctatus*. C.R. Soc. Biol. Paris **145** 1951 pp. 26–29 2 figs.

Vintemberger, P., see Ancel, P.

1169.—**Vinton**, K. W. Observations on the life history of *Leptodactylus pentadactylus*. *Herpetologica* **7** 1951 pp. 73–75.

Voipis, P., see Suomalainen, P.

1170.—[**Vyuskov**, B. P.]. Some problems of evolution of Teriodonta. *Adv. mod. Biol. Moscow* **32** 2 (5) 1951 pp. 271–280 4 figs. [In Russian].

1171.—**Waddington**, C. H. Passage of phosphorus-32 from dried yeast into amphibian gastrula ectoderm. *Nature Lond.* **166** 1950 pp. 566–567.

1172.—**Waechter**, H. Implantation von differentem embryonalem Gewebe in die Leibeshöhle erwachsener Molche. *Arch. Entw.Mech. Organ.* **144** 1951 pp. 572–617 19 figs.

1173.—**Wahlert**, G. Die wissenschaftliche Bezeichnung des Axolotls. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 52–53.

1174.—**Wahlert**, G. v. Vergleichend-anatomische Untersuchungen an der Urodelenkloake. *Verh. anat. Ges. Jena* **97** (1950) 1951 pp. 230–235 5 figs.

1175.—**Walker**, L. W. & **Kirkpatrick**, G. E. The incredible chameleon. *Nat. Hist. N.Y.* **60** 1951 pp. 42–44 6 figs.

Wall, F., see Smith, M. A.

1176.—**Walley**, H. & **Smith**, P. W. The Marbled Salamander, *Amblystoma opacum* (Gravenhorst), in Michigan. *Copeia* **1951** p. 309.

1177.—**Walton**, A. C. Parasites of the amphibia, Protozoa and Cestoda. [Abstract]. *Anat. Rec.* **111** 1951 pp. 580–581.

1178.—**Warburton**, F. Notes on the vertebrates, except fishes, of the Sault Ste. Marie region of Ontario. *Canad. Field Nat.* **64** 1951 pp. 192–200.

1179.—**Warburton**, F. E. Intimidation display of red-bellied snake [*Storeria occipitomaculata*]. *Canad. Field Nat.* **65** 1951 p. 79.

1180.—**Wassen**, H. Notes on the southern groups of Choco Indians in Colombia. *Ethnological Studies. Gotesborgs Mus. Sweden* 1935 pp. 98–100.

1181.—**Way**, W. D. & **Standen**, O. D. Zoology in postage stamps, London (Harvey & Blythe) 1951 pp. vii + 113 frontis. 32 pls.

1182.—**Webb**, M. The cranial anatomy of the South African geckoes *Palmatogecko rangei* (Andersson), and *Oedura karroica* (Hewitt). *Ann. Univ. Stellenbosch* **27A** 1–5 1951 pp. 131–165 13 figs.

Webb, O. L., see Loomis, R. B.

1183.—**Weber**, A. Innervation des muscles lisses de la marine chez la salamandra noire. *C.R. Ass. Anat.* No. 55 1949 pp. 416–418. [Not seen].

1184.—**Weel**, B. P. van. Some observations on the behaviour of *Natrix subminiata* Schleg. *Biol. Jaarb.* **18** 1951 pp. 41–47.

Weigle, J., see Guyénot, E.

1185.—**Weiss**, P. & **Rossetti**, F. Growth responses of opposite sign among different neuron types exposed to thyroid hormone. *Proc. nat. Acad. Sci. Washington* **37** 1951 pp. 540–556 10 figs. tables.

1186.—**Welles**, S. P. A new Elasmosaur from the Eagle Ford shale of Texas. *Fondren Sci. Ser. No. 1* 1949 pp. 1–28 6 pls. 4 figs.

1187.—**Werler**, J. E. The poisonous snakes of Texas and the first aid treatment of their bites. *Texas Game & Fish Bull.* No. 31 1950 [pp. 1–40] pls. 1 col. text-figs.

1188.—**Werler**, J. E. Miscellaneous notes on the eggs and young of Texan and Mexican Reptiles. *Zoologica, N.Y.* **36** 1951 pp. 37–48 7 pls.

1189.—**Werler**, J. E. & **McCallion**, J. Notes on a collection of reptiles and amphibians from Princess Anne County Virginia. *Amer. Midl. Nat.* **45** 1 1951 pp. 245–252 5 figs.

1190.—**Wermuth**, H. Variationsstatische Untersuchung der Rassen und Geschlechtsmerkmale bei der Blindschleiche (*Anguis fragilis* Linné). *Dtsch. Zool. Z.* **1** 1951 pp. 81–121 16 figs.

1191.—**Werner**, R. M. Einiges über Lebensort und Lebensbedingungen einer österreichischen Otter. *Aquar. Terrar. Z. Stuttgart* **4** 1951 pp. 160–161 photo.

1192.—Werner, R. M. "Stickormar" och "Bitormar". Svensk. Faun. Revy No. 2 1951 pp. 59–63 figs.

1193.—Wettstein, O. & Löffler, H. Ergebnisse der Österreichischen Iran-Expedition 1949/50, Amphibien und Reptilien. Versuch einer tiergeographischen Gliedening Irans auf Grund der Reptilienverbreitung. S.B. öst. Akad. Wiss. Abt. I **160** 5 1951 pp. 427–448.

1194.—Wikström, D. Slät snok, *Coronella austriaca* Laur., funnen i Sund. Memor. Soc. Fauna Flora fenn. **26** 1951 p. 3.

1195.—Wilber, C. G., Lieb, J. R. & Slane, G. M. Lipids in frog blood. [Abstract]. Biol. Bull. Wood's Hole **101** 1951 p. 235.

1196.—Wilde, Jr., C. E. An in vitro study of the urodele cranial neural crest. [Abstract]. Anat. Rec. **111** 1951 pp. 508–509.

Wiley, G. O., see Woodson, W. D.

1197.—Willey, C. H. Arterial anomalies in the aortic arches of *Rana catesbiana*. [Abstract]. Anat. Rec. **111** 1951 p. 567.

1198.—Wilson, J. A. Cope's types of fossil reptiles in the collection of the Bureau of Economic Geology, the University of Texas. J. Paleontol. **24** 1 1950 pp. 113–115.

1199.—Wilson, V. Some notes on a captive scarlet snake. Herpetologica **7** 1951 p. 172.

1200.—Wiman, C. Über einige neue Lebensbilder von Dinosauriern. Paläont. Z. **23** 1–2 1942 pp. 237–249 pl. 13 text-figs. 1–4.

1201.—Wimpenny, R. S. The effect of vegetation on the breeding of newts, *Molge cristata* and *Molge vulgaris*. J. Anim. Ecol. **20** 1951 pp. 98–102 1 tab.

1202.—Witschi, E. Génétique et physiologie de la différenciation du sexe. Arch. Anat. micr. Morph. exp. **39** 1951 pp. 215–246 13 figs.

1203.—Witschi, E. Hormonale Modifikation der Geschlechtsdifferenzierung bei *Alytes obstetricans*. Z. naturf. Tübingen **6b** 2 1951 pp. 76–85 8 figs.

1204.—Witschi, E. The development of the bronchial columella in the aquatic ear of Ranidae. [Abstract]. Anat. Rec. **109** 1951 pp. 359–360.

1205.—Witschi, E. Hormonal modification of sex differentiation in the obstetric toad, *Alytes obstetricans*. [Abstract]. Anat. Rec. **109** 1951 pp. 389–390.

1206.—Witschi, E. Adrenal hyperplasia in larval frogs treated with natural estrogens. [Abstract]. Anat. Rec. **111** 1951 pp. 451–452.

1207.—Witschi, E. & Chang, C. Y. Cortisone-induced transformation of ovaries into testes in larval frogs. Proc. Soc. exp. Biol. **75** 1951 pp. 715–718 4 figs. tables.

1208.—Witte, G. de. Description d'un Serpent nouveau du Katanga *Calamelaps ventrimaculatus katangensis*. Rev. Zool. Bot. afr. **45** 1951 pp. 17–18.

1209.—Woerdeman, W. L'induction du cristallin chez les amphibiens. Année biol. (3) **26** 12 1950 pp. 699–709.

1210.—Wohlzogen, F. X. & Halama, A. Über die empfindlichkeit der männlichen Wechselkröte gegenüber Chorion-Gonadotropin. [English Summary]. Experientia **7** 1951 pp. 221–222 1 graph.

1211.—Wohlzogen, F. X. & Halama, A. Quantitative Untersuchungen über die Wirkung von Choriongonadotropin auf männliche Laubfrösche. Naturwissenschaften **38** 16 1951 pp. 382–383 1 fig. 1 table.

1212.—Wolterstorff, W. & Freytag, G. E. Eine studie über das verwandtschaftsverhältnis von Teichmolch (*Triturus vulgaris*) und Fadenmolch (*Triturus helveticus*). Abh. naturk. Vorgesch. Magdeburg **8** 4 1951 pp. 139–190 pls.

Wood, B., see Altland, P. D.

1213.—Wood, J. T. Protective behavior and photic orientation in aquatic and larval Two-lined Salamanders, *Eurycea b. bislinata* × *cirrigera*. Virginia J. Sci. 1951 **2** 2 pp. 113–121. [Not seen].

1214.—Wood, J. T. & Duellman, W. E. Ovarian egg complements in the salamander *Eurycea bislineata*. Copeia **1951** p. 181.

1215.—Woodbury, A. M. & Smith, H. M. On the correct name for the Yellow Rattlesnake from the Colorado River Basin. *Bull. zool. Nom.* **6** 1951 pp. 99–100 pp. 101–102.

1216.—Woodbury, A. M. and others. A snake den in Tooele County, Utah.

Introduction.—A ten year study. A. M. Woodbury.

Temperatures of entrance and emergence. B. Vetas.

Sex ratios of the winter populations. G. Julian.

Egg production of the Great Basin rattlesnake, H. R. Glissmeyer.

Growth and age in Western Striped Racer and Great Basin rattlesnake. F. La Marr Heyrend & A. Cell.

Color analysis in the Great Basin rattlesnake. E. W. Smart.

Effects of venom injections in rattlesnakes. R. T. Sanders.

Herpetologica San Diego **7** 1 1951 pp. 1–52 pls. charts.

1217.—Woodbury, L. A., Hecht, H. H. & Christopherson, A. R. Membrane resting and action potentials of single cardiac muscle fibers of frog ventricle. *Amer. J. Physiol.* **164** 2 1951 pp. 307–318. [Not seen].

1218.—Woodson, W. D. The lady and the cobra. *Nat. Hist., N.Y.* **60** 1951 pp. 413–419 6 figs.

1219.—Worrell, E. Classification of Australian Boidae. *Proc. R. Zool. Soc. N.S.W.* **1949–50** 1951 pp. 20–25 2 figs.

1220.—Wright, M. R. Maintenance of denervated taste organs in adult *Triturus v. viridescens*. *Proc. Soc. exp. Biol.* **76** 3 1951 pp. 462–463.

1221.—Wright, P. A. Effect of boiling on intermedia activity of frog pituitary. [Abstract]. *Anat. Rec.* **111** 1951 pp. 501–502.

1222.—Wurbach, H. Untersuchungen über die Rolle des Wassers beim Wachstum und der Metamorphose der Amphibienlarven. *Verh. dtsh. zool. Ges.* **1950** [1951] pp. 59–91 19 figs.

1223.—Yabe, H. & Shikama, T. A new Lower Triassic Nothosauria from Isihu near Yanaizu, Mōno-gun, Mujagi Prefecture. *Proc. Japan Acad.* **24** 10 1948 pp. 35–41 1 fig.

1224.—Yagi, K. Flavin compound in frog's eye. *Jap. J. Physiol.* **2** 1 1951 pp. 27–33.

Yakovlev, V. A., see Portugalov, V. V.

1225.—Yamada, F. Studies on the ciliary movements of the oviduct. *Jap. J. Physiol.* **2** 3 1951 pp. 194–197 2 figs.

Yamamoto, Y., see Yasuzumi, G.

1226.—Yasuzumi, G., Miyao, G., Yamamoto, Y. & Yokoyama, J. The microstructure and origin of the thread-like bodies isolated from the metabolic nucleus. *Chromosoma* **4** 3 1951 pp. 359–368 13 figs.

Yokoyama, J., see Yasuzumi, G.

Zak, E., see Glick, D.

1227.—Zangerl, R. A new Anosteirine Turtle from Manchuria. *Fieldiana, Geol.* **10** 3 1947 pp. 13–21 text-figs. 5–8.

1228.—Zangerl, R. Re-description of *Taphropsys olssoni* a fossil turtle from Peru. *Fieldiana, Geol.* **10** 5 1947 pp. 29–40 text-figs. 10–13.

1229.—Zapfe, H. Ein Ichthyosaurierwirbel aus dem Lias der Nordalpen. *Jber. oberöst. Musealver.* **96** 1951 pp. 185–187 2 figs.

Zbyszewski, G., see Lapparent, A. F. de.

1230.—Zeiger, K., Harders, H. & Muller, W. Der Strugger-Effekt an der Nervenzelle. *Protoplasma* **40** 1 1951 pp. 76–84.

1231.—Zeuthen, E. Segmentation, nuclear growth and cytoplasmic storage in eggs of echinoderms and amphibia. *Pubbl. Staz. zool. Napoli* **23** Suppl. 1951 pp. 47–69 14 figs.

1232.—Zim, H. S. Frogs and toads. William Morrow & Co., New York 1950 64 pp. illus. [Not seen].

Zotterman, Y., see Andersson, B.

Zuidweg, M. H. J., see Cate, G. Ten.

Zweifel, R. G., see Lowe, C. H. Jr.

Zweifel, R. G., see Norris, K. S.

1233.—Zyl, J. H. M. van. Die Beskrywende en Vergelykende Anatomie van die Skedel van *Discoglossus pictus* (Gravenhorst). *Ann. Univ. Stellenbosch* **26A** 12 1950 pp. 1–26 14 figs.

II.—SUBJECT INDEX

GENERAL LITERATURE AND HISTORY

Text-books : General Works.—

Handbook of Palaeontology for Beginners and Amateurs, GOLDRING, W. 405.—Images des Mondes disparus. Collected and emended edition of articles previously published in *La Nature* (see Z.R. 1950), PIVETEAU, J. 863.—Biostratonomy—consideration of death and preservation of bodies from evidence of fossils, MÜLLER, A. H. 739.—Time factor in Geology and Paleontology, SCHINDEWOLF, O. H. 966.—Vertebrate Zoology ; an introduction to the comparative anatomy, embryology and evolution of chordate animals, DE BEER 257.—The anatomy of man and other animals, MURRAY & JEFFREE 743.—The Frog : Its reproduction and development (*Rana pipiens*), RUGH 938.—On reptiles and amphibians, general accounts, habits, development, exotic species, ossification, figs., BERTIN 88.—British reptiles and amphibians, includes parasites, SMITH, M. A. (BAYLIS, H. A.) 1038.—Frogs and toads, ZIM 1232.—Remarks on Grace O. Wiley technique, WOODSON 1218.—Zoology of Patagonia, KRIEG 581.—Zoological travel in N. America, MERTENS, R. 713.

History.—Of *Iguanodon*, SWINTON, W. E. 1090.—Archeological natural history of Cuba, AGUAYO 12.—Herpetology and its early history, SMITH, M. A. 1038.—Cuba, AGUAYO 11.—Naturalists in Latin America, CHARDON 204.—Of Vital Brazil, bibliography, photo, RINCONES 916.—Of the Giant tortoises, LESTER 628.—Zoology in postage stamps, WAY & STANDEN 1181.

Biography.—Of Louis Dollo, photo, BRIEN 145.

Obituary.—Frank Wall, photo., SMITH, M. A. 1037.—F. Angel, photo., GUIBÉ 422.—Paul Krefft, MERTENS 705.

Bibliography.—Catalogue of Fossil Vertebrata of North America, HAY, O. P. 456.—DERANIYAGALA 264.—

HENRY 467.—Annotated list of marine ecological relations of living amphibians and reptiles, except turtles, SCHMIDT, K. P. 969.—European literature on reptiles and amphibians, SMITH, M. A. 1038.—Of Western N. American amphibians, STEBBINS 1059.—Solomon Ids., TANNER 1096.—On Costa Rica, TAYLOR, E. H. 1102.—Vital Brazil, RINCONES 916.—Correct citation for certain species described by Tschudi, PETERS 846.—On 1st edition of Linnaeus' *Systema Naturae*, pages reproduced, SCHMIDT, K. P. 970.

Taxonomy.—On the legality of restriction of type locality, DUNN & STUART 283.

Nomenclature.—†*Plotosaurus* new generic name for *Kolposaurus*, J. Paleont. 25 6 1951 p. 822, CAMP, C. L. 179.—Proposed suspension of rules in certain cases, HEMMING 463.—Restrictions of type localities, DUNN & STUART 284.—Remarks on some generic names of the Boidae, FORCART 345.—Proposal to suppress trivial name "*caesius*" of *Coluber caesius*, LOVERIDGE 655.—Determination to which species be applied "*sirtalis*" Linn., and "*sauritus*" KLAUBER 567.—Proposed determination of trivial name "*sirtalis*" is to be applied, SCHMIDT & CONANT 972.—*Thamnophis sirtalis*, DOWLING 273.—On correct application of trivial name of *Crotalus "concolor"* Jan, WOODBURY & SMITH, H. M. 1215, and KLAUBER 568.

Museums and Collections.—Sellon Collection in National Museum of Rio de Janeiro and elsewhere, CONTO C. DE P. 237.—Pterodactyls in Senckenberg Museum, HUENE, F. F. VON 518.—Cope's types of fossil reptiles in Colln. of Bureau of Economic Geology, Univ. of Texas, WILSON, J. A. 1198.—Sao Paulo snake farm, ANON 4.—Instituto Butantan ; history, notes on technique, general information, plates, VAZ 1157.—Hopkins-Branner expedition to Brazil, SCHMIDT & INGER 973.—Acquisitions of the Institute of French N. Africa of snakes in 1950, VILLIERS 1165.—Adolpho Lutz, LUTZ, B. 661.—Importation regulations for poisonous snakes into the U.S.A., ANON. 2.

Vernacular Names.—British species, SMITH, M. A. 1038.—Reptiles and amphibians in Norway, Soor-

RYEN 1050.—Amphibia of Norway, STØP-BOWITZ 1082.—Amphibia and reptilia of Finland, SUOMALAINEN & VOIPIO 1086.—Frogs of Germany, NEUBAUER 764.—Amphibians of N.W. Germany, RÜHMEKORF 939.—Of Hanover, Germany, TENIUS 1106.—Reptiles and amphibians of India, CHATTERJEE 205.—Reptiles of Manipur State, Assam, ACHARJI & KRIPALANI 8.—Reptiles of Hong Kong, HERKLOTS 470.—Reptiles and amphibians of Thailand, some English and some with Siamese characters, SUVATTI 1087.—Of E. African reptiles and amphibians, LOVERIDGE 652.—Of Ontario, Canada, WARBURTON 1178.—Amphibians of Western N. America, STEBBINS 1059.—Santa Ana Mts., California, fauna, PEQUEGNAT 837.—Amphibians and reptiles of the Chicago area, SMITH, A. G. 1025.—Kansas fauna, BREUKELMAN & CLARKE 144.—Some Kansas reptiles and amphibians, BRUMWELL 158.—Maryland Hylid frogs, COOPER 231.—Reptiles and amphibians of Lebanon Cnty., Pennsylvania, HEILMAN 460.—Texas toad, BRAGG & SANDERS 137.—Texas poisonous snakes, WERLER 1187.—Wisconsin reptiles, DICKINSON 269.—Wisconsin reptiles and amphibians, SUZUKI 1088.—Amphibians and reptiles from New Mexico, Utah and Arizona, CHENOWETH 208.—Venezuelan fauna, RÖHE 920.—Venomous snakes of New S. Wales, ORMSBY 807.—Some reptiles of Arno Atoll, Marshall Ids., MARSHALL 686.

Folklore.—Fossil footprints as origin of belief in Dragons, KIRCHNER, H. 563.—Snake beliefs in Greece, ARGENTI & ROSE 41.—Turtles of Perak River, LOCH 645.—Crocodiles in India, MOSES 736.—On giant S. American snakes, AMARAL 25.

Food for Man.—Green turtle bones in Fiji, GIFFORD, E. W. 392.—Reptiles and amphibians, REESE, A. M. 898.—Turtles and frogs; notes on fisheries, habits, &c., TRESSLER & LEMON 1133.—*Testudo graeca* of N. Africa by soldiers, GUIBÉ 421.—Snakes of Hong Kong, HERKLOTS 470.—Sea snakes of Australia, MACINNES 667.

Technique.—Process of mounting snake skeleton, DOURADO 270.—Technical and clinical value of frogs and toads, MCCARTHY & SOUCY 664.

STRUCTURE

including HISTOLOGY

Text-Books : General Works.—The anatomy of man and other animals, MURRAY & JEFFREE 743.—The neural crest, figs., HORSTADIUS 504.—Functional anatomy of vertebrates, figs., QUIRING 882.—

Integument ; Skin.—Functions of amphibian skins, figs., ELKAN 302.—Presence of enteramine in amphibian skin, ERSBAMER & VIALLI 308.—Changes in the grafted skin of Amphibia, IGNATYEV 524.—The adepidermal reticular network of *Triturus* skin, SINGER & ANDREWS 1018.—Modification of nucleus and cytoplasm in *Salamandra maculosa*, SACERDOTE & ARGAN-CHIESA 944.—Topography of conjunctiva tissue in *Rana temporaria*, STCHELKUNOV & LATISHEVA 1064.—Skin of *Rana esculenta*, VIALLI 1160.—CAFIERO, GUADABASSI & SACERDOTE, 175.

Osteology.—†Osteology, HUENE, E. von 509.—†Vertebrae of fossil amphibia and reptilia, HUENE, F. F. von 512.—†Armoured neural spines of fossil Amphibia, LUNDELIN, E. 659.—†Knee-joint of *Rhadiodromus vlimovi*, Trias, Donguz River, Tchalovsk district, Russia, EFREMOV 297.—†Limb bones of *Buettneria*, OLSEN, R. 795.—†Skull of *Diadectes*, OLSON, E. C. 797.—†*Diplocaulus* fully discussed, OLSON, E. C. 802.—Ossification of extremities, BAUSENHARDT 77.—Vertebral and pelvic variations in *Necturus*, HARRIS 451.—Skeleton of *Siredon mexicanus*, KALIN & KELLER 543.—*Pseudoeurycea bellii*, figs., BAIRD 55.—Chondrocranium of amphibia, REINBACH 903.—Comparative study on dentine in some amphibians, DANINI 251.—Ossification method in *Xenopus laevis*, BERNASCONI 87.—Development of chondrocranium of *Ascaphus truei*, figs., VAN EEDEN 1152.—Anatomy of head of *Leiopelma*, figs., STEPHENSON, E. M. 1069.—Skull of *Discoglossus pictus*, ZYL 1233.—Caudal ribs in geckos, fig., ELTOUBI & KHALIL 304.—Cranial anatomy of *Palmatogecko rangei* and *Oedura karroica*, WEBB 1182.—Of *Phrynosoma m'callii* skull, figs., NORRIS & LOWE

775.—Sacral ribs of *Chalcides ocellatus*, KAMEL 546.—Cranial morphology of *Microsaura pumila*, ENGELBRECHT 306.—Cranial morphology of *Rhampholeon platyceps*, FRANK 356.—On fractured skull bones in snakes, ANTHONY & SERRA 36.—Skull of *Lissemys punctata granosa*, figs., PANDYA 819.—

Dentition.—Histology of dentin in lizards, MARTZINKEVITCH 690.—Biting apparatus in *Constrictor* and *Epicrates*, ANTHONY & SERRA 37.

Muscles ; Myology.—Comparative histology of the motor end-plate, COLE 222.—Innervation of smooth muscles in nostril of salamander, WEBER 1183.—*Pseudoeurycea belii*, figs., BAIRD 55.—Frogs, ORTMANN 808.—Cholinesterase in the muscles of the tongue in frog, PORTUGALOV & YAKOVLEV 873.—Chondrocranium of amphibia, REINBACH 903.—Heart muscles in frogs, ROTHSCUH 935.—*Rana esculenta*, muscle protein, CIGADA 218.—Amphibian leg muscles, TAKISAWA & SUNAGA 1092.—Changes in skeleton muscles of frogs caused by experimental factors, KAMNEV 547.—Of *Phrynosoma m'callii*, skull, NORRIS & LOWE 775.—Biting apparatus in *Constrictor* and *Epicrates*, ANTHONY & SERRA 37.—Head muscles of *Thamnophis sirtalis*, *elegans*, *ordinoides*, comparative study, COWAN & HICK 238.

Circulatory system.—On size of liver and spleen in vertebrates, GARVEN 383.—Blood supply of hypophysis, GREEN 409.—Alteration of morphological structures on catalysis and respiratory processes, BONDI 111.—Solubilities of some vertebrate fibrinogens in plasma-ethanol mixtures, MORRISON, SCUDDER & BLATT 735.—*Leiopelma hochstetteri*, SZARSKI 1091.—On spleen of *Xenopus laevis*, STERBA 1072.—Arterial anomalies in the aortic arches of *Rana catesbiana*, WILLEY 1197.—Lipids in frog blood, WILBER, LIEB & SLANE 1195.—Lymphatic hearts in frogs, TEHEREDEEVA 1104.—Heart of *Riopa guentheri*, figs., KASHYAP 551.—Orbital sinus of *Eunectes murinus*, ANTHONY & SERRA 35.—Of *Trachyboa* and *Tropidophis*, BRONGERSMA 149.—Pulmonary artery of *Xenopeltis*, BRONGERSMA 151.—Electrocardiogram & crocodilian heart, DAVIES, FRANCIS of KING 252.

Body Cavity.—Anatomy of *Homoiolepis buccata*, BERGMAN 86.—Comparative histology of the enteron of some American turtles, BALLMER 60.

Alimentary system.—†Gastroliths of plesiosaurs, SHULER, E. W. 1004.—On size of liver and spleen in vertebrates, GARVEN 383.—Development of intestinal coiling in anuran larvae, KEMP 559.—On pigment cells in tongue of *Lacerta muralis*, SICHEL 1006.—On liver of *Testudo graeca*, RICCERI 913.—Pigment in *Testudo graeca* liver, SICHEL 1005.

Respiratory system.—A nasal gland in the Plethodontidae, figs., HILTON 484.—Of *Tropidophis* and *Trachyboa*, BRONGERSMA 149.—On pulmonary artery of snakes with two lungs, figs., BRONGERSMA 150.—Pulmonary artery of *Xenopeltis*, BRONGERSMA 151.—Morphology and histology of lung in snakes, VARDE 1156.—Alteration of morphological structures on catalysis and respiratory processes, BONDI, 111.

Nervous system.—BARON 66.—Structure in reptiles, CONTU 229.—Rate of hypertrophy of cells, BAFFONI 51.—A study of the enteric plexuses in amphibians, GUNN 423.—Comparative histology of the brain in amphibia KIRO 565.—Hormono-neural mechanism of development of anuran callosities, CHAMPY & DEMAY 201.—Forebrain of *Triturus*, HOMEYER 500.—On regeneration in the central nervous system in *Triton* and *Lacerta*, STEFANELLI 1062.—Sympathetic rami in *Rana pipiens*, PICK & SHEEHAN 855.—*Rana esculenta*, MAILLET 669.—SALA 946.—Eye of *Natrix natrix* and *Python*, figs., CONTU 228.—Eye of *Sphenodon*, VILTER 1167.

Excretory system.—On development of suprarenals and near organs in lizards, BIMMER 91.—Kidney in vertebrates, FISK & TRIBE 337.—Glomeruli of *Cyclorana* kidney, DAWSON 256.

Reproductive system.—Ciliary movements of the oviduct, YAMADA 1225.—Cloaca of salamanders, WAHLERT 1174.—*Bufo vulgaris* oviduct, RE 895.—Connection during gestation between egg and oviduct in *Lacerta vivipara*, PANGEL 820.—*Enhydryna schistosa*, KASTURIRANGAN 552.—Structure of reproductive organs of *Terrapene c. carolina*, figs., ALTLAND 19.

Glands.—A nasal gland in the Plethodontidae, figs., HILTON 484.—Venom glands of Salamanders, GESSNER 387.—Nasal cavities and glands of *Discoglossus pictus*, ZYL 1233.—Presence of norepinephrine in parotid secretion of *Bufo marinus*, LASAGNA 608.—On spleen of *Xenopus laevis*, STERBA 1072.

Endocrine glands.—Comparative anatomy of the hypophysis, reference to blood supply and innervation, GREEN 409.—Hypophyses of neotenic amphibians, DELSOL 260.—Function and fate of transplanted pituitary in amphibians, EAKIN & HARRIS 291.—Connection between pituitary and thyroid in urodele larva, HERRE 473.—Pituitary of *Bufo viridis*, METUZALS 714.—Colour change in *Hyla arborea*, MÜSSBICHLER & UMRATH 744.

Sense organs.—Ear in *Anguis fragilis*, HOCHSTETTER 491.—Study of nasal cavities of *Hemiphaedusa carvalhoi* and Pipidae, figs., PATERSON 825.—Olfactory system of tailed amphibia, figs., HILTON 486.—Capillary network in auditory and olfactory organs in salamanders, HILTON 483.—Eye retinas of reptiles, lizards, UNDERWOOD 1145.—Flavin compound in frog eye, YAGI 1224.—Outside structure of eye in amphibians and reptiles, figs., MENNER 703.—3-eyed amphibians in Czechoslovakia, HENNIG 465.—Otic system of *Triton* and *Bombinator*, figs., ANDRES 31.—Visual cells of *Rana pipiens*, SHERMAN 1000.—Parietal organ in *Xenopus laevis*, figs., HAFFNER 431.—Eye of *Natrix natrix*, ARMSTRONG 43.—Nervous system of eye of *Natrix natrix* and *Python*, figs., CONTU 228.—On pineal eye in *Sphenodon*, VILTER 1166.—Eye in *Sphenodon*, VILTER 1167; 1168.

Lateral line.—*Xenopus laevis*, ELKAN & MURRAY 303.

Sound apparatus.—In salamanders MASLIN 691.

Teratology.—Malformations in Amphibian tissues, VEREYDKAYA 1159.—Double-monsters of *Triturus pyrrhogaster*, figs., ICHIKAWA 522.—Polymely in *Rana temporaria*, HAMILTON, A. G. 439.—*Rana catesbeiana* with six functional legs, figs., PELGEN 831.—Anatomical variation in polymelous *Bufo melanostictus*, SAMARASSINGHE 949.

Bio-chemistry.—Flavin compound in frog eye, YAGI 1224.—Distribution of phosphorus³² in embryo and larva of frog, HANSBOROUGH & DENNY 448.—Paratoid excretions, FISCHER & LECOMTE 336.—Studies on carbohydrates of toad and frog egg jelly, HIYAMA 489.—Phosphatase in limb regeneration, KARCZMAR & BERG 549.—Concentration of potassium in glomerular fluid, BOTT 116.—Collidal secretion of pituitary glands, METUZALS 714.—Ovulation in amphibia, RE 896.—Salamander poison, GESSNER 387.—Phosphatase of *Rana esculenta* integument, CAFIERO, GUADABASSI & SACERDOTE 175.—Riboflavin concentration in tissues of *Rana pipiens*, FERGUSON 326.—Presence of norepinephrine in parotid secretion of *Bufo marinus*, LASAGNA 608.—Body fat of *Bufo arenarum*, CATTANEO, SUTTON & PENHOS 195.—On *Ctenosaura* and *Iguana*, HERNANDEZ & COULSON 472.—Excretion of *Chalcides ocellatus* and *Scincus officinalis*, FOUD KHALIL 346.—*Testudo graeca* urine composition, ANTONINO 38.

Laboratory technique.—Latex casts of footprints—new technique descr., BAIRD, D. 54.—Caudal autotomy and regeneration of lizard tails, BORING, CHANG & CHANG 115.—Skeletal preparation, DOURADO 270.

Cytology.—Rate of hypertrophy, BAFFONI 51.—Sexual development of genital glands in absence of gonocytes in amphibians, BOUNOURE 117.—Structural variation in amphibia, COLOMBO 224.—Gastrulation and the notogeneses of vertebrates, FLORIAN 344.—Chromosomes of batrachians, GUYÉNOT, DANON, KELLENBERGER & WEIGLÉ 424.—Restitution of spinal cord, HOLTZER 499.—The neural crest, HORSTADIUS 504.—Medial wall of reptilian fore-brain, figs., KÄLLÉN 545.—Phosphatase in limb regeneration, KARCZMAR & BERG 549.—Mauthner's cell in amphibians, STEFANELLI 1061.—Nervous system of frogs, STEFANELLI 1063.—Mauthner cells of amphibian larvae insensibility to thyroxine, TUSQUES 1137.—The oocyte chromosomes of *Triturus*, GALL 371.—Meiosis in interracial hybrids of *Triturus cristatus*, CALLAN & SPURWAY 178.—Skin of *Salamandra maculosa*, SACERDOTE & ARGAN-CHIESA 944.—Sex-hormones of

Triton alpestris, CAGIANUT 176.—Lens competence in *Ambystoma*, LIECKE 638.—Histology of beryllium inhibition on amputated fore-limbs of *Ambystoma* larvae, THORNTON 1110.—*Ambystoma mexicanum*, GIACOMELLI 390.—Structure of the nucleus and the shape of spermatocytes in Axolotl. FROLOVA 364.—On mesencephalic trigeminal root cells in brain of *Megalobatrachus japonicus*, KATO & KAGAMI 553.—Carotid labyrinth in *Rana*, CHOWDHARY 216.—*Rana pipiens* visual cells, SHERMAN 1000.—Specific granules of the pancreatic islet tissue of *Rana temporaria*, BARRINGTON 68.—Spinal cord in *Rana esculenta*, NEMEC 763.—Cytomorphosis of Mauthner's cell in *Hyla arborea*, BAFFONI & CATTÉ 52.—Structure of spermatozoa, in *Leptodactylus*, BARBIEN 65.—Determination of the adhesive glands in *Bombinator pachypus*, CHEN & BALTZER 206.—Pigment cells in tongue of *Lacerta muralis*, SICHEL 1006.—Neurosecretion; relationship between the parathyroid and paraventricular nucleus in *Thamnophis* sp., figs., SCHARRER 962.—Of *Terrapene* reproductive organs, figs., ALLTAND 19.

Melanophores.—Growth and pigimentary responses of *Ambystoma* embryos, COPENHAVER & DETWILER 232.

Autotomy.—Autotomy and regeneration of lizard tails, BORING, CHANG & CHANG 115.

PHYSIOLOGY

General works : Text books.—Vertebrate sexual cycles, BULLOUGH 167.—The neural crest, figs., HORSTADIUS 504.—Functional anatomy of vertebrates, QUIRING 882.—*Triturus vulgaris* and *T. helveticus*, WOLTERSTORFF & FREYTAG 1212.

Nutrition and Digestion.—Role of urease in the gastric mucosa, GLICK, ZAK & KORFF 399.

Fasting.—Effect of starvation on reptiles and amphibians, PAVLININ & SHVERTZ 828.

Circulation.—Warm blooded reptiles of the geological past. SCHUH, F. 983.—On vasomotor reflexes, MARCEAU 682.—Action of nervous system of arterial circulation, MARCEAU 683.—Effect of faradic stimulation of frog's

heart, NELEMANS 762.—Action of curare on frog's heart, RUDOLPH 936.—Effect of the second and third ligatures of Stannius on frog heart, POSTMA 874.—Hemoglobin measurements in toads. STUART 1085.—[Hemostasis] in toad capillary, CHEN & TSAI 207.—Distribution of cerebrospinal fluid in *Rana catesbiana*, AGERSBERG 10.—Metabolism of *Rana catesbiana* heart, HASHIMOTO & NUKADA 454.—Mechanism of epinephrine-induced tachycardia in *Rana pipiens*, NICKERSON 765.—Blood streams in heart of *Rana temporaria* and *Bufo bufo*, FOXON 353.—Hemoglobin content of turtle blood, ALLTAND & BOWEN 20.—Biochemical study of variation in blood constituents after feeding in *Alligator mississippiensis*, COULSON, HERNANDEZ & DESSAUER 236.—Electrocardiogram of crocodilian heart, DAVIES, FRANCIS & KING 252.

Osmotic relations.—Influence of salt loss on osmotic regulation in anurans, JØRGENSEN 536.—Frog water-balance principle, SAWYER, TRAVIS & LEVINSKY 961.—On water absorption through skin of toads, figs., USSING 1148.—Osmotic homeostasis in development of *Hynobius retardatus*, KUSA 587.—Passage of water through *Rana* skin, CAPRARO and others 181; CAPRARO & BERNINI 182; CAPRARO, PENNELLA & TIENGO 183; CAPRARO & TIENGO 184; CAPRARO & PENNELLA 185.—Adrenalectomy on water shift in *Rana pipiens*, ANGERER 33.—Water uptake and moulting in *Bufo regularis* EWER 318.—Pituitary preparations effects on water balance in *Bufo regularis*, EWER 319.

Respiration.—Of Hadrosaur dinosaurs, WIMAN, C. 1200.—Oxygen absorption of *Bufo vulgaris* embryos and larvae, CAGLIOTI 177.—Consumption of three reptiles, KAYSER 558.—Oxygen consumption in segmentary eggs, ZEUTHEN 1231.—Hemoglobin measurements and oxygen supply in toads, STUART 1085.—Of *Lacerta ocellata*, and other lizards, BOELAERT 102.—Composition of the alveolar air in *Testudo* and *Clemmys*, BAŞOĞLU 73.—Of *Alligator mississippiensis*, BOELAERT 103.

Nervous system.—BARON 66.—CRESCITELLI 240.—On vasomotor reflexes, MARCEAU 682.—Of arterial cir-

culatation, MARCEAU 683.—Ionic basis of electrical activity, HODGKIN 492.—Local reaction in frogs to temperature and chemicals, SCHNEIDER 974.—Muscle tonus in frogs, HERMANN, CIER & FLANDROIS 471.—Pupil dilation caused by sensory nerve stimulation in frogs, KLOPPER 574.—Motor nerves of batrachians, LAPICQUE 604.—Synaptic transmission in an amphibian ganglion, MALCOLM 670.—Synaptic transmission in the superior cervical ganglion of *Bufo marinus*, MALCOLM 671.—Oxygen uptake by excised frog sciatic nerves, OBERHOLZER 777.—Sympathetic rami in frog, PICK & SHEEHAN 855.—Activation and organization of central nervous system in amphibians, NIEUWKOOP 768.—*Rana esculenta*, SALA 946.

Senses.—Experiments on the differentiation of the labyrinth in *Ambystoma*, DETWILER & VAN DYKE 267.—Ear differentiation in *Ambystoma*, DETWILER 265.—Smelling ability in *Lacerta*, ABEL 7.—Function of cells of olfactory epithelium, figs., SLOTWINSKI 1021.—Water taste in *Rana temporaria*, ANDERSSON & ZOTTERMAN 30.—Maintenance of denervated taste organs in adult *Triturus*, WRIGHT, M. R. 1220.—On colour and light sensibility in amphibians, BIRUKOW 93.—Comparative study of phosphatases of vertebrate retina, DAVIS, L. T. 254.—Eye cup-lens correlation in some S. African amphibians, BALINSKY 59.—Lens induction in *Triturus*, MIKAMI 717.—Otic system of *Triton* and *Bombinator*, figs., ANDRES 31.—Eye of *Natrix natrix*, ARMSTRONG 43.

Excretion.—Phosphate by isolated frog kidney, HOGGEN & BOLLMAN 495.

Secretion.—Skin secretions used in defence by *Ambystoma maculatum*, BARACH 64.—Sexual difference in dermal secretion in *Scaphiopus*, BRAGG 128.—Of parotoid of toads, FISCHER & LECOMTE 336.—Salivary diastases of the frog and toad, FRANCIS & EISA 354.—On salamander gland poisons, GESSNER 387.

Endocrine glands.—Antithyroid drugs in adult *Anolis*, ADAMS & CRAIG 9.

Hormones.—GOETSCH 401.—Secretions in amphibia, HILD 481.—Regulation of sex-secondary characters

in male toad, BURGOS 172.—Sex-hormones differentiation in amphibians PADOA 815.—Action of sex hormones on muscle, REY 910.—Regulation of clasping reflex in male amphibians, REY 909.—Growth responses among different neuron types, WEISS & ROSSETTI 1185.—Action of ♂♀ sex-hormones on non-sexual cells, TÖNDURY & CAGIANUT 1131.—Parathyroid hormone and regeneration in reptiles, UMANSKI & KUDOKOZEV 1141.—Action in axolotls, SCHREIBER & SCHREIBEROVÁ 980.—*Triton alpestris*, CAGIANUT 176.—Gonads and kidney in *Triturus cristatus* larvae treated by testosterone, PISANO 860.—Action of adrenaline on *Triturus cristatus carnifex*, LANZA 603.—Experiment on *Salamandra s. taeniata*, MUHLFORDT 738.—*Rana*, BIANCHI 90.—*Rana esculenta*, LANZA 601.—Adrenaline action on *Rana esculenta*, CRESSERI & BEVACQUA 242; FRASSINETI 357.—Action of adrenaline on *Rana esculenta* heart, RABBENO 883.—Mechanism of epinephrine-induced tachycardia in *Rana pipiens*, NICKERSON 765.—Male hormone effects upon claws of young *Terrapene carolina*, EVANS L. T. 312.

Growth.—Morphogenetic regulation in the amphibia, DALCQ 247.

Regeneration.—Alkaline phosphatase in limb regeneration, KARCZMAR & BERG 549.—Experiment nerve regeneration in frogs and temperature effect, LUBINSKA & OLEKIEWIEZ 658.—Lens-regeneration in anurans, OKADA 786.—Of forelimb of the frog by augmentation of nerve supply, SINGER 1017.—Of sensory olfactory epithelium and nerves in adult frogs, SMITH, G. 1028.—Beryllium inhibition of regeneration, THORNTON 1110; 1111.—Regeneration inhibited by X-rays and its recovery, TRAMPUSCH 1132.—Failure of, and induction, of limb regeneration in anura and lizards, ROSE 926.—Limbs of Reptilia, UMANSKI & KUDOKOZEV 1141, 1142.—Bones of Amphibia, TAMARIN 1093.—Lens regeneration from cells of dorsal iris in salamander eyes, STONE 1081.—*Ambystoma* limbs, BUTLER 174.—X-rayed tissue in Axolotl, SIDOROVA 1010.—Limbs in *Triturus* and origin of cells, ICHIKAWA & AMANO 523.—*Triton cristatus*, KIORTSIS 562.—Oxidation-reduction indicator patterns in foreleg

and tail of *Triturus torosus* larvae, figs., CHILD 209.—Hypophysectomy and limb regeneration in *Triturus viridescens*, HALL & SCHOTTÉ 434.—*Triturus viridescens*, SIDMAN & SINGER 1008.—Regeneration in central nervous system in *Triton* and *Lacerta*, STEFANELLI 1062.—Of sensory olfactory epithelium and nerves in *Rana pipiens*, SMITH, C. G. 1026.—Tails of *Hyla arborea* larva, SANTA 953.—Regeneration limits in *Alytes obstetricans*, LECAMP 619.—*Alytes obstetricans*, LECAMP 620 ; 621.—Members of *Xenopus laevis* after metamorphosis, GALLIEN & BEETSCHEN 378.—*Bombina bombina* limbs by hydrolysis of cartilage, POLEZHAEV & RAMENSKAIA 365.—*Bombina bombina* limbs, ROGAL 919.—In *Liolaemus a. altissimus*, HELLMICH 461.

General metabolism.—In amphibia, BRACHET 118.—Action of various metabolites on development of frogs eggs, BRACHET 119.—On carbohydrate metabolism in frog retina, SEKOGUTI 990.—Metabolism factor and radio-sensitivity in *Amblystoma*, LA HAM & O'BRIEN 591.—Protein metabolism, EAKIN, BERG & KUTSKY 289.—Protein metabolism of amphibian embryo, EAKIN, KUTSKY & BERG 292.—Phosphorus metabolism in ovarian eggs of *Triturus pyrrhogaster*, VILLEE & DURYEE 1163.—Metabolism of *Rana catesbiana* heart, HASHIMOTO & NUKADA 454.—*Bufo arenarum*, CATTANEO, SUTTON & PENHOS 195.

Bio-chemistry.—BARTH, L. G. & JAEGER 72.—GOETSCH 401.—MACHER 666.—Protein catabolism, ANTONINO 39.—Salivary diastases of the frog and toad, FRANCIS & EISA 354.—Alkaline phosphatase activity during amphibian development, KRUGELIS 583.—Implants in Triton, KUUSI 588.—Influence of proteins on induction, KUUSI 589.—Olfactory epithelium of batrachians, reptiles, birds and mammals, SLOTWINSKI 1021.—On metabolism of glucose in frog-retina, SEKOGUTI 990.—Liver of *Triturus vulgaris*, TOIVONEN 1127.—Biochemical gradients in axolotl gastrula, GREGG & LØVTRUP 410.—A tyrosinase inhibitor from *Rana pipiens* skin, BAKER, A. S. 57.—Enzymes of the integument of *Rana esculenta*, CAFIERO, GUADABASSI & SACERDOTE 175.—Quantitative changes of ascorbic acid

during metamorphosis of *Bufo vulgaris*, BUCCI 164.—Action of local anesthetic on *Bufo bufo*, GUARINO 420.—Suitability of *Alligator mississippiensis* for experimental study, COULSON, HERNANDEZ & BRAZDA 235.—Variation in blood constituents after feeding in *Alligator mississippiensis*, COULSON, HERNANDEZ & DESSAUER 236.

Vitamins.—GOETSCH 401.—Need of *Xenopus*, ANON. 1.

Coloration.—Physiology of pigments, SERRA 993.—Heterotopic transplantation of neural crest and melanogenesis in salamanders, DE LANNEY 259.—Effect of boiling on frog, WRIGHT 1221.—In salamander larvae, HONJO 501.—Dynamic factors responsible of pigment suppression in salamander larvae, LEHMAN 626.—*Triturus alpestris*, FREYTAG 362.—Experiments between pigmentless and pigmented eggs of *Amblystoma punctatum*, PIATT 854.—Effect of intermedin upon melanin content of skin of *Rana*, FRIEDEN & BOZER 363.—Colour change in *Hyla arborea*, MÜSSBICHLER & UMRATH 744.—Effect of light on colour change in *Bufo arenarum* by experiment, JUÁREZ 537.—Regulation of colour in *Bufo arenarum*, JUÁREZ 538.—Colour change in chamaeleons, figs., ANON. 3.

Muscular activity.—*Rana temporaria*, BIRUKOW 94.—Rheology of cross striated muscle, BUCHTHAL 165.—Tonus vasomoter in frogs, HERMANN, CIER & FLANDROIS 471.—Electrical stimulation in *Rana*, HIRAMOTO 488.—Ionic basis of electrical activity, HODGKIN 492.—In amphibian, KRÜGER & HANISCH 584.—Proteolytic enzymes in muscle protein fractions from frog leg muscles, NARDONE 754.—Frogs, ORTMANN 808.—On cardiac muscle fibers of frog ventricle, WOODBURY, HECHT & CHRISTOPHERSON 1217.

Body temperature.—Distributional implications and temperature tolerances in toads, STUART 1085.

Effects of environment.—Temperature and X-ray destruction of tadpoles, ALLEN, SCHJEIDE & HOCHWALD 14.—Observations on water conditions, BANDT & FREYTAG 62.—Sensibility to colour and light in amphibians, BIRUKOW 93.—Temperature and amphibian embryos, CATE,

KOOIJ & ZUIDWEG 194.—Review of seasonal variations of light and temperature, and sexual cycles, GALGANO & MAZZI 369.—Pressure and tadpole narcosis, JOHNSON & FLAGLER 532.—Action of lithium on amphibian embryos, LALLIER 592.—Effect of cold-acclimatized toads, LI, T. H. 636.—Hypothermia effects on turtle, PLATNER 864.—Viscosity of protein solutions and development of amphibian embryo, RANZI 888.—Effects of increased environmental temperatures on the concentration of blood reducing sugars in *Chrysemys picta*, RAPTAZ 890.—Local reaction of nervous system in frogs to temperatures and chemicals, SCHNEIDER 974.—Size of snakes and amphibians in relation to the temperature. TERENTJEV 1108.—Effect on muscle after soaking in salt or water, TOBIAS 1125.—Insensibility to thyroxine of Mauthner cells of amphibian larvae, TUSQUES 1137.—Effect of water on growth in amphibian metamorphosis, WURMBACH 1222.—Effect of low temperature on development rate in *Ambystoma punctatum*, CORTELYN 233.—Effect of vegetation on breeding of *Molge*, WIMPENNY 1201.—NaCl on *Triturus* larva, RÖHRS 921.—Temperature-pulse rate curve of isolated heart in *Rana temporaria*, SMITH, C. L. 1027.—High temperatures on spermatogenesis of *Leptodactylus ocellatus*, RENGEL 906.—*Bufo bufo* development, BLAIZOT, S. & J. 99.—Effect of light on colour change in *Bufo arenarum*, JUÁREZ 537.—Effect of chemicals on bone reduction in *Xenopus*, BRETSCHER & TSCHUMI 143.

Experimental studies.—Experimental palaeobiology, HINSCH, G. 487.—Antithyroid drugs in adult *Anolis*, ADAMS & CRAIG 9.—On function of the paraphysis cerebri in *Ambystoma mexicanum*, ARIENS 42.—Eye of *Natrix natrix* figs., ARMSTRONG 43.—Factors affecting metamorphosis of Urodeles, BAKER, C. L. & STOUDEMAYER 58.—Eye cuplens in amphibians, BALINSKY 59.—Development of early reptile embryos *in vitro*, BELLAIRS, R. 83.—Genital glands in amphibians, BOUNOURE 117.—Appearance and development of cholinesterase in amphibian midbrain, BOELL & SHEN 105.—Observations on use of tropical animals, BOER 106.—Effect of antithyroid drugs on frogs thyroid, BRADLEY 120.—Chemical

effect on bone in *Xenopus*, BRETSCHER & TSCHUMI 143.—Action of thyroxine on *Bufo arenarum* heart, CAYAFFA-BONIFAZ & VIGNOLO-PUGLIA 197.—Exogastrulation; determination of the adhesive glands in *Bombinator pachypus*, CHEN & BALTZER 206.—Antigens in developing newt embryos, CLAYTON 219.—Effects of antithyroid compounds on *Amblystoma* embryos, COPENHAVER & DETWILER 232.—The "carrier" effect as protective agent to dividing cells in *Amblystoma*, COSTELLO, HENLEY & KENT 234.—Effects of oxine &c., on frogs nerves, CRESCITELLI 239.—Temperature differentiation of the dual action of amyl carbonate on frog nerve, CRESCITELLI 240.—On Axolotl, gene action, DALTON & HALL 249.—Ear differentiation in *Amblystoma*, DETWILER 265; Medulla reversal in *Amblystoma*, DETWILER 266; Differentiation of labyrinth in *Amblystoma*, DETWILER & VAN DYKE 267.—Effect of poison and light-rays on frog sperm, DREBINGER 275.—Protein metabolism in amphibian embryos, EAKIN, BERG & KUTSKY 289.—Development of neural lobe of pituitary in embryo of *Hyla regilla*, EAKIN & BUSH 290.—Protein metabolism of amphibian embryo, EAKIN, KUTSKY & BERG 292.—Water uptake and moulting in *Bufo regularis*, EWER 318.—Pituitary preparations effects on water balance in *Bufo regularis*, EWER 319.—Production of supernumerary fore-limbs in *Triturus*, FAUTREZ 323.—Action of urea on development in *Rana temporaria*, FAUTREZ 324.—Effect of intermedin upon melanin content of skin of *Rana*, FRIEDEN & BOZER 363.—Morphogenesis in amphibians, GALLERA 373; Sex-hormones and sex-differentiation in amphibians, GALLIEN 374; Effect of testosterone on gonad of *Pleurodeles waltlii*, GALLIEN 376.—On oviduct of *Bufo arenarum*, GALLI-MAININI 380; Action of ovary and oestrogen on oviduct, GALLI-MAININI 381.—Effect of maleic hydrazide on embryonic and larval growth, GREULACH, MCKENZIE & STACY 413.—Mitosis and colchicine in *Triton palmatus*, GROPP 417, 418.—Action of local anesthetic on *Bufo bufo*, GUARINO 420.—*Triton alpestris*, on chorda, HADORN 429.—Development and antihistamines, HAHN & POUPA 432.—Effect of bacterial polysaccharide

on artificial activation in egg of *Rana pipiens*, HARDING 449.—Electrical stimulation of muscle of *Rana*, HIRAMOTO 488.—Ionic basis of electrical activity in nerve and muscle, HODGKIN 492.—Influence of quinine on respiration of frog muscle, HOPKINS 502.—The neural crest, HORSTADIUS 504.—Colchicine effect on amphibia, KANTNER 548.—Differentiation of *Ambystoma* larvae after extirpation of heart, KEMP & QUINN 561.—Amputation of amphibian larvae and effect of isotonic solution (Holtfreter), KUPKA 586.—Motor nerves of batrachians, LAPICQUE 604.—Action of sulfamides on striated muscle, LECOMTE 622.—On the release of spermatozoa in male frogs with adrenaline, LI, H. M. & CHANG 634.—Frog nerve, LIU 642.—On pituitary gland of *Rana dalmatina*, LOUBIÈRE 650.—Effect of parrot fish thyroid gland on metamorphosis in *Rana clamitans* tadpoles, MATTHEWS & ASH 692.—Effect of hormones, drugs on lungs of amphibians, MAZZELLA 694.—Provoked ovulation in amphibia, MAZZI 695.—Lens-induction in *Triturus*, MIKAMI 717.—Trunk mesoderm in *Amblystoma*, MUCHMORE 737.—Pituitary of *Salamander s. taeniata*, MUEHLFORDT 738.—Epinephrine cardioacceleration in the frog, NICKERSON & NOMAGUCHI 766.—Development of the primordial germ cells in amphibians, NIEUWKOOP 767.—Growth of the optic nerve in amphibia, NIKITENKO 769.—Resistance to water by ova of *Bufo arenarum*, ORIAS & ALLENDE 805.—Sex-differentiation, PADOA 816.—Castration of *Bufo arenarum*, PENHOS 835.—Influence of fasting and forced feeding on *Bufo arenarum*, PENHOS & CARDEZA 836.—Supernummary legs in *Bufo vulgaris*, PERRI 843.—Gonads and kidney in *Triturus cristatus* larvae treated by testosterone, PISANO 860.—Sex in amphibians, PONSE 866.—Function of crystalline in *Rana ridibunda* and *R. esculenta*, POPOV 870.—Effect of the second and third ligatures of Stannius on frog heart, POSTMA 874.—RAUNICH 893.—Effect of NaCl on *Triturus* larva, RÖHRS 921.—Growth inhibition in frog larvae by aminopterin, ROSENBAUM & VELARDO 927.—Action of curare on frog's heart, RUDOLPH 936.—Action of urethane on nerve fibres of batrachians, RUDOLPH, CORABOEUF & THIEULIN 937.

—On nervous system in amphibia, SALA 947.—Effect of strychnine on heart of *Bufo vulgaris*, SALVATORE 948.—Effect of iodoacetate on muscular changes, SANDOW & KARCZMAR 952.—Effect of pituitary extract on permeability of frog's skin to water, SAWYER 960.—SCHREIBER 979.—Effect of drug on muscle of *Bufo arenarum*, SEGUNDO 987; and, SEGUNDO & PATETTA-QUEIROLO 988.—Drug and ion effects on frog muscle, SHANES 996.—Thyroxine injection in *Ambystoma tigrinum*, SLUCZEWSKI & ROTH 1022.—Temperature-pulse rate curve of isolated heart of *Rana temporaria*, SMITH, C. L. 1027.—Effect of sodium cyanide and amino acids on turtle heart, SPILKER & McCASHLAND 1054.—On thyroid gland and effect of 2-thiouracil on *Rana clamitans* larvae, STEINMETZ 1067.—Effect of "äthylurethan" on amphibian development, STROINK 1083.—Electrical make-up of a frog single muscle fibre, TAMASIGE 1094.—Regression of injured denervated limbs in *Ambystoma*, THORNTON & KRAEMER 1112.—Electrical polarization, TOBIAS 1126.—On colour in larvae of *Rana* and *Bufo*, TUSQUES 1136.—On sciatic nerves of frogs, VALETTE & ROSSIGNOL 1150.—Action of thyroxine on heart of *Bufo arenarum*, VIGNOLO-PUGLIA & CAYAFFA-BONIFAZ 1162.—Passage of phosphorus³² into amphibian gastrula ectoderm, WADDINGTON 1171.—Adrenal hyperplasia in larval frogs, WITSCHI 1206.—Sex-reversal effect of cortisone on *Rana*, WITSCHKE & CHANG 1207.

X-rays, etc.—Effects of X-ray on *Terrapene c. carolina*, ALTLAND, HIGHMAN & WOOD 21.—Development of secondary tails in young axolotls after X-ray, BRUNST & FIGGE 162.—X-ray effect on teeth of axolotl, BRUNST, SHERMETIEVA-BRUNST & FIGGE 163.—Radiobiology, FICQ 328.—Functional restoration in limbs of Axolotl after being X-rayed, GALKOVSKAYA 370.—Radiation and the hypophysis in frogs, KASHTCHENKO 550.—Biological action of X-rays on gill regions, grafts and transplantations on *Rana esculenta*, NATALE 755.—Grafting and X-ray experiments with Amphibia, UMANSKI & KUDOKOTZEV 1140.—Effect of ultraviolet on ear of *Triton alpestris*, DÜRKEN 286.

Transplants, Implants, Regeneration, Grafting, etc.—Transplants of

intermediate mesoderm in *Triturus pyrrhogaster*, ASAYAMA 45.—Function and fate of transplanted pituitary in amphibians, EAKIN & HARRIS 291.—Transplants of amphibia, FARINELLA-FERRUZZA 321.—Transplants and organizers, HAMA 438.—Transplants of spleen, RAUNICH 892.—Return of vision in transplanted salamander eyes, STONE 1080.—Implants on skin of *Triton alpestris*, WAECHTER 1172.—Mechanics of blastema formation and regeneration in *Ambystoma* limbs, BUTLER 174.—Regeneration in *Alytes*, LECAMP 621.—Lens-regeneration in anurans, figs., OKADA 786 ; Beryllium inhibition of regeneration, THORNTON 1110, 1111.—Induction affected by organizers in *Triturus*, HAMA 437 ; Induction of limbs in *Triturus*, and cell origin, ICHIKAWA & AMANO 523.—Induction of notochord by frog ventral skin, OKADA 787 ; Induction of sensory organs, OKADA & HAMA 788.—Grafting experiments in Anura, GINTZBURG 393 ; 394.—Grafting in the eye of *Triton cristatus*, WIKITENKO 770.—Grafting between pigmentless and normal eggs of *Amblystoma punctatum*, PIATT 854.

Pregnancy Test Use.—Amphibia caudata, LANZA 602.—Method of detoxifying urine, LEVEY & PUTNAM 631. — New simplified method, PARENZAN 821.—Seasonal alteration in reaction of small frogs, POPOVA 871.—Factors influencing the male frog test for pregnancy, REINHART, CAPLAN & SHINOWARA 904.—Value of *Triturus cristatus*, PISANO & CHICCO 861.—Tests of *Rana* and *Bufo* of Formosa, CHU 217.—*Rana esculenta* on value, BEVACQUA & FORMENTANO 89 ; and, CERQUIGLINI 199 ; and, CRESSERI & BEVACQUA 241 ; and THORNBORG & HANSEN 1109.—*Rana pipiens*, quantitative reaction, HARTMANN-PERDROMO 453 ; and PAUL 827.—*Rana vittigera*, LAWAS 615.—*Rana nigromaculata*, LI, M. H., 635.—*Bufo bufo*, THORNBORG & HANSEN 1109.—Advantages in use of *Bufo arenarum*, JONES 534.—*Bufo melanostictus*, NADKARNI & BROKER 752.—Sensitivity of *Bufo viridis* checked in April and May, WOHLZOGEN & HALAMA 1210.—*Hyla arborea*, WOHLZOGEN & HALAMA 1211.—*Xenopus laevis*, PAUL 827 ; and, Use of and investigations, THORNBORG & HANSEN, 1109 ; and, On use of, TOIVONEN, HARJOLA & TIKKANEN 1128.

Laboratory technique.—Method for determining hemoglobin content of turtle blood, ATLAND & BOWEN 20.—Technical and chemical value of frogs and toads, MCCARTHY & SOUCY 664.—Method for removal of jelly and vitelline membrane of *Rana pipiens* egg, SPIEGEL 1053.

Teratology.—Double-monsters of *Triturus pyrrhogaster*, figs., ICHIKAWA 522.

Physiology of Sex-behaviour.—*Triturus*, PRECHTL 875.

REPRODUCTION AND SEX

Reproduction.—British reptiles and amphibians, SMITH, M. A. 1038.—The role of nucleoproteid and fecundity in amphibia, BRACHET 118.—Notes on *Natrix s. insularum* of Pelee Id., Lake Erie, Ontario, HAMILTON 442.—*Psammodromus algirus algirus*, BIRKENMEIER 92.—Number of young of *Xantusia*, BRATTSTROM 138.

Reproductive Cycle.—BULLOUGH 167.—*Corporea lutea* in snakes, BRAGDON 121.

Hybridization.—Interbreeding of natural populations, BLAIR, W. F. 98.—Diploid, androgenetic and gynogenetic haploid development in anura, HAN-PO 447.—*Ambystoma tigrinum* × *A. mexicanum*, GEYER & FREYTAG 388.—Observations on larval parabiosis of *Triturus cristatus* ♂ × *T. vulgaris* ♀, figs., PISANO 859.—Meiosis in interracial *Triturus cristatus*, CALLAN & SPURWAY 178.—*Triturus vulgaris* and *T. helveticus*, WOLTERSTORFF & FREYTAG 1212.—*Triton palmatus* ♀ × *Salamandra atra* ♂, BALTZER & SCHÖNMANN 61.—Anomalies in hybrids of *Rana* and *Bufo*, FEDOROVA 325.—*Rana nigromaculata nigromaculata* × *R. n. brevipoda*, MORIYA 734.—Interspecific mating in *Bufo valliceps* & *B. w. fowleri*, ORTON 811.—*Crotalus*, PERKINS, C. B. 840.

Parthenogenesis.—ARCANGELI 40.—The role of nucleoproteid in amphibia, BRACHET 118.—Artificially produced albino frogs, TOKUNAGA 1129.—Diploid-tetraploid mosaics in *Rana nigromaculata*, figs., KAWAMURA & MIYADA 556.—*Xenopus laevis*, ROSTAND 934.

Secondary Sex Characters.—*Terrapene carolina*, EVANS, L. T. 315.—In *Pseudemys scripta troostii*, EVANS, L. T. 316.

Sex Dimorphism and Sex Dichromatism.—Dimorphism of ischiopubis, VALLÉE 1151.—Dimorphism in Amphibians, WITSCHI 1202.—Umbilical scar as sex dimorphic character in *Heterodon platyrhinos*, EDGREN 295.

Sex Determination.—Differentiation of ova from dehydrated eggs, HANAOKA 444.—*Rana esculenta*, SABBADIN 941.

Sex Ratios.—*Pleurodeles waltlii*, GALLIEN 375.

Sex Hormones.—Action on gonad, GALLIEN 377.—On sex differentiation in amphibians, GALLIEN 374.—Differentiation in amphibians, PADOA 815.—Sex differentiation, PADOA 816.—Investigation of action of ♂♀ sex-hormones on non-sexual cells, TÖNDURY & CAGIANUT 1131.—*Triton alpestris*, CAGIANUT 176.—Influence of fish hypophysis on metamorphosis of *Rana temporaria*, ISATCHENKO 525.—Modification in *Alytes obstetricans*, WITSCHI 1203 ; 1205.—Effects of ♂ hormone upon tail of *Pseudemys scripta troostii*, EVANS, L. T. 316.

Sex Reversal.—*Alytes obstetricans*, WITSCHI 1205.—Cortisone, effect on *Rana*, WITSCHI & CHANG 1207.

Hermaphroditism.—ARCANGELI 40.—Amphibians, PONSE 866.—Description of a specimen of *Leptodactylus chaquensis*, figs., PISANÓ & RENGEL 862.

Physiology of Sex.—BULLOUGH 167.—*Bufo nayaritensis* during amplexus, FIRSCHEIN 330.

Ovulation.—*Heloderma suspectum*, HENSLEY 468.

DEVELOPMENT

Egg.—Of *Lampropeltis g. getulus*, KNEPTON 575.—Of *Triturus helveticus*, SENTEN 992.—Of *Leptodactylus pentadactylus*, VINTON 1169.—Action of various metabolites, BRACHET 119.—Corpora lutea of snakes, BRAGDON 121.—Correlation between egg axis and attachment in ovary of *Rana temporaria*,

BRØNDSTED & MEYER 148.—Protein metabolism, EAKIN, BERG & KUTSKY 289.—Development of eggs in captivity, LE BUFF 618.—Ciliary movements of the oviduct, YAMADA 1225.

Sperm ; spermatogenesis.—*Triturus cristatus carnifex*, BATTAGLIA & GUALA 74.—*Rana temporaria*, GALGANO & LANZA 368.—Action of high temperatures on *Leptodactylus ocellatus*, RENGEL 906.—Case of gynogenesis in *Bufo bufo*, ROSTAND 932.—Of *Phrynosoma cornutum*, CAVAZOS 196.—Amphibians, WITSCHI 1202.—Ciliary movements of the oviduct, YAMADA 1225.

Spermatogenesis.—Nuclear growth and cytoplasmic storage in eggs, ZEUTHEN 1231.

Embryology.—On *Ambystoma* cranial neural crest, WILDE 1196.—Forebrain of *Triturus*, HOMEYER 500.—Implants on skin of *Triton alpestris*, WAECHTER 1172.—Pituitary activity and pigment patterns in *Siredon*, DALTON 248.—*Rana pipiens* ; Cholinesterase activity in optic lobe, BOELL & SHEN 104 ; The pronephros, JAFFEE 527 ; Text-book, RUGH 938 ; Antigenic differences, SPAR 1051.—Saccus endolymphaticus in *Bufo vulgaris* and *Rana esculenta*, GUARDABASSI & GRATTAOLA 419.—Oxygen absorption in *Bufo vulgaris* embryos and larvae, CAGLIOTI 177.—Development of neural lobe of pituitary in *Hyla regilla*, EAKIN & BUSH 290.—Development of *Leopelma* and *Ascapus*, STEPHENSON 1070.—Development of the chondrocranium and visceral arches of *Leopelma archeyi*, figs., STEPHENSON, N. G. 1071.—*Discoglossus pictus*, GALLIEN & HOUILLOIN 379.—*Xenopus laevis* ; Ossification process of femur in, FOX, E. & IRVING 349.—Head segmentation in *Anolis*, HAMLETT 443.—Of ear in *Anguis fragilis*, HOCHSTETTER 491.—Umbilical scar in *Heterodon platyrhinos* as sexual dimorphic character, EDGREN 295.—Reotaxis in anuran larva, ALVERDES 22.—Genetic neurology and the behaviour problem, BARRON 70.—Early development of amphibia, BAUTZMANN 78.—The development of suprarenals and near organs in lizards, BIMMER 91.—The role of nucleoproteid in amphibia, BRACHET 118.—Corpora lutea of snake, BRAGDON 121.—Illustrations of devel-

opment, included in Vertebrate Zoology, DE BEER 257.—Protein metabolism, EAKIN, BERG & KUTSKY 289.—Gastrulation and the notogenesis of vertebrates, FLORIAN 344.—The neural crest, HORSTADIUS 504.—LANGEVOORT 600.—Central nervous system in amphibians, NIEUWKOOP 768.—Direct development in frogs, ORTON 812.—Scent organs in Amphibia, SHMALGAUZEN 1002.—Role of purines in frog embryos, STEINERT 1066.—Induction of crystalline in amphibia, WOERDEMAN 1209.

Organisers. — Amphibia, BAUTZMANN 78.—Effects of ultracentrifugal force on the cell, BEAMS, 80.—Ultra-violet absorption spectra of amphibian organizer and of frog skin, FUJII 365.—Explanation of the Urodelan organiser, HAMA 436.—Induction affected by paired head and trunk organizers in *Triturus*, HAMA 437.—*Triturus pyrrhogaster*, HAMA 438.—Differentiation of the trunk mesoderm in *Ambystoma maculatum*, MUCHMORE 737.—Sexual differentiation of *Rana esculenta*, SABBADIN 941.

Chemical embryology.—BALTZER & SCHÖNMANN 61 ; BARTH, L. G. & JAEGER 72 ; STEINERT 1065.—Distribution of nitrogen in *Varanus* flesh, AIRAN & GHATGE 13.—The relation of adenosine triphosphate to yolk utilization in frogs egg, BARTH & BARTH 71.—Amphibian enzymes, ESPOSITO SEU MARGHERITA 309.—Chromatographic studies of amino acids, HOLTERETER, KOSZALKA & MILLER 498.—Role of sulphhydryles in morphogenesis, LALLIER 593.—Proteins in the cells in embryonic development, RANZI 889.—Role of sulphhydryles in morphogenesis, RAPKINE & BRACHET 891.—Antigenic differences in *Rana pipiens*, SPAR 1051.—Nuclear acid in eye development of amphibia, RICKENBACHER 915.

Neoteny.—Age of maturity of neotenic *Ambystoma tigrinum mavortium*, GLASS 396.—Examination of cause, LODEWIJKS 646.—*Eurycea latitans*, new Texas locality record, MILSTEAD 725.—RADOVANOVIC 884.—Pattern in *Eurycea lucifuga*, REESE, R. W. & SMITH, H. M. 901.—*Triturus vulgaris* and *T. helveticus*, WOLTERSTORFF & FREYTAG 1212.

Ontogeny.—The telencephalon in some lower vertebrates, including

amphibia, KÄLLÉN 544.—Medial wall of reptilian forebrain, figs., KÄLLÉN 545.—Changes in osteodermal ornamentation in skinks, *Eumeces laticeps*, figs., OLIVER 792.

Organogeny. — Eye cup-lens in some amphibians, BALINSKY 59.—Parietal organ in *Xenopus laevis*, figs., HAFFNER 431.—Development of egg in frog, SIDOROV 1009.—Amphibian gonads, VANNINI 1153.—Development of bronchial columella in the aquatic ear of Ranidae, WITSCHI 1204.

Larval Stages.—Of *Eurycea longicanda guttolineata*, SINCLAIR 1013.—Chondrocranium of *Ascapus truei*, VAN EEDEN 1152.—*Leptodactylus pentadactylus* VINTON 1169.—Adrenal hyperplasia in larval frogs, WITSCHI 1206.

Morphogenesis. — Regulation in the amphibia, DALCQ 247.—Experimental study on "acrencephale", in amphibians, GALLERA 373.—Parietal organ in *Xenopus laevis*, figs., HAFFNER 430. — Morphological differentiation attendant upon invagination in urodeles, HAMA, 436.—In batrachians, PASTEELS 824.

Special structures. — Sexual development of genital glands in absence of gonocytes in amphibians, BOUNOURE 117.—The evolution of the auditory perilymphatic system, TUMARKIN 1134.

Metamorphosis. — Cytomorphosis of Mauthner's cell in *Hyla arborea*, BAFFONI & CATTÉ 52.—*Bufo bufo*, BLAIZOT, S. & J. 99.—*Bufo ictericus*, ROSA 925.

Life History.—*Leptodactylus pentadactylus*, VINTON 1169.

Growth.—OLSON, E. C. 802.—Size relations of *Buettneria* limb bones. (Foss. Amphib.), OLSEN, R. 795.—Relative growth in Permian amphibians and a reptile, OLSON, E. C. & MILLER, R. L. 803.—Development and function of dentine in Amphibia, DANINI 251.—Lens competence in *Ambystoma*, LIEDEKE 638.—Growth and age in *Masticophis taeniatus taeniatus*, WOODBURY 1216.

Teratology. — Double-monsters of *Triturus pyrrhogaster*, figs., ICHIKAWA 522.—Anomalies hereditary and experimental of *Rana temporaria*, ROSTAND 929.—Maturity and anomalies in eggs of

Rana temporaria, ROSTAND 933.—Larva of *Salamandra s. quadiuvirgata* SCHMELCHER & HELLMICH 967.

Effects of Environment.—Temperature effect on amphibian embryos, CATE, KOOIJ & ZUIDWEG 194.—Effect of colchicin on early *Triton palmatus*, GROPP 418.—Viscosity of protein solutions and development of amphibian embryo, RANZI 888.—Examination of role of water on growth in amphibian metamorphosis, WURMBACH 1222.

perilymphatic system, TUMARKIN 1134.—The auditory conducting apparatus, figs., TUMARKIN 1135.

Adaptations.—Of Dinosaurs, COLBERT, E. H. 220.—On a group of snakes, Pseudoboini, BAILEY 53.—Body proportions in island and mainland *Lacerta*, KRAMER 578.

Protective coloration and structures.—Phragmosis and the "Unken Reflex" in *Pternohyla fodiens*, FIRSCHEIN 331.

Albinism. — *Rana temporaria temporaria* in nature and terraria, PETZSCH 851.—*Bufo bufo*, ROSTAND 931.—*Microhyla carolinensis* tadpoles, ANDERSON 29.

Genetics.—Genetic neurology and the behavior problem, BARRON 70.—Experimental, BEATTY 81.—Of sex in amphibians, PONSE 866.—Meiosis in hybrid *Triturus cristatus*, CALLAN & SPURWAY 178.—A new variant in axolotl, DALTON & HALL 249.—*Bufo bufo*, ROSTAND 930.—Island and mainland body proportions in *Lacerta*, KRAMER 578.

Heredity.—Anomalies of *Rana temporaria*, ROSTAND 929.

Genetics of Sex.—Amphibians, PONSE 866.—WITSCHI 1202.

Chromosome problems. — ARCANGELI 40.—GUYÉNOT, DANON, KELLENBERGER & WEIGLÉ 424.—HERTWIG 476.—LEHMANN 625.—WITSCHI 1202. — Of vertebrates, MATTHEY 693.—Effect of colchicine, KANTNER 548.—Action of chloracetophenone on amphibian eggs, BEATTY 81.—Diploid, androgenetic and gynogenetic haploid development in anuran hybridization, HAN-PO 447.—Mitosis and colchicine in *Triton palmatus*, GROPP 417.—*Triton alpestris*, MORGENTHAU 733.—Electron microscope study from *Triturus* oocytes, TOMLIN & CALLAN 1130.—The oocyte chromosomes of *Triturus*, GALL 371.—Reproductive ability of triploid and diploid *Triturus pyrrhogaster*, KAWAMURA 554.—Tetraploidy in *Triturus pyrrhogaster* by cold treatment, figs., SANADA 950.—*Chioglosia lusitanica*, MAGALHÃES MATEUS 668.—Heteroploidy in a "Natural population" of *Amblystoma punctatum*, figs., HENLEY & COSTELLO 464.—Axolotl, DALTON & HALL 249.—Experimental work on *R. burnsi* gene in

EVOLUTION AND GENETICS

General works ; Theories.—RENSCH 907.—Of Tetrapods, HUENE, F. F. von 514.—Time factor in Palaeontology, SCHINDEWOLF, O. H. 966.—Evolutionary morphology, included in, Vertebrate Zoology, DE BEER 257.—Evolution emerging ; survey of changing patterns, GREGORY, W. K. 412.—The origin of snakes, BELLAIRS & UNDERWOOD 82.—A mathematical model applied to a study of the evolution of species, OLSON & MILLER 804.—Amphibians, LANG, H. 594.—Evolution of warm-blooded reptiles, SCHUH, F. 983.—Of Teriodont reptiles, VYUSHKOV 1170.—Traced through characters of vertebrae, HUENE, F. F. von 512.—Permian chronofauna, OLSON, E. C. 796.

Phylogeny.—HENNIG 466.—Of Ichthyosaurs, HUENE, F. F. von 515.—Of Sauropterygia based on fore limb, HUENE, E. von 509.—Of Vertebrates, HUENE, F. F. von 510.—Of auditory conducting mechanism, figs., chart, TUMARKIN 1135.—Interspecies competition, in *Plethodon*, HAIRSTON 433.—Of *Liolaemus*, HELLMICH 462.—Boidae, UNDERWOOD 1143.—*Casarea*, ANTHONY & GUIBÉ 34.—Comparison between *platynota* and snakes, both fossil and recent, BELLAIRS & UNDERWOOD 82.—*Dipsas* and *Sibon*, DUNN 282.

Evolution and Organs.—Jaws of Mosasaurs compared with *Hesperornis*, GREGORY, J. T. 411.—Chondrocranium in amphibia, REINBACH 903.—The knee joint in relation to method of progression, figs., SONNENSCHNEIN 1049.—The origin of the astragalus of reptiles, figs., PEABODY 829.—The auditory

adult *pipiens*, BAKER, A. S. 56.—Capacity for cleavage and differentiation in *Rana pipiens* eggs lacking "functional" chromosomes, BRIGGS, GREEN & KING 146.—On offspring of triploid males of *Rana nigromaculata*, figs., KAWAMURA 555.—On diploid-tetraploid mosaics in *Rana nigromaculata*, figs., KAWAMURA & MIYADA 556.—*Leptodactylus* 4 species, BARBIERI 65.—Haploid-triploid mosaic induced by heat treatment in *Bufo vulgaris formosus*, figs., MUTO 745.—*Phrynosoma cornutum* CAVAZOS 196.—"Metabolic chromosome" of *Clemmys japonica*, YASUZUMI and others 1226.

Experimental.—BEATTY 81.

ECOLOGY AND HABITS

General works.—A small island community in midsummer, MANVILLE 681.—Functional anatomy of vertebrates, QUIRING 882.—Ecological scheme of Bolivia, MANN 679.—Survey of Fort Leavenworth Military Reservation, BRUMWELL 158.—Ecological studies on the vanishing vertebrate fauna of rain forests, Nyasaland, LOVERIDGE 654.

Amphibia and Reptilia.—So-called experimental Palaebiology, HINSCHKE, G. 487.—Effect of starvation on amphibians and reptiles, PAVLININ & SHVARTZ 828.—Outline for ecological life history studies of reptiles, FITCH 338.—British species, SMITH, M. A. 1038.—Ecology and list of amphibians and reptiles of Voronezh province, Russia, SEVERZOV 995.—Santa Ana Mts., California, fauna, PEQUEGNAT 837.—On fauna of Queimada Grande Id., Sao Paulo, Brazil, HOGE 497.—Ecology of Marshall Ids. (Arno Atoll), MARSHALL 686.

Amphibia Caudata.—†Amphibia of Carboniferous, PAUL, H. 826.—Interspecies competition and its probable influence upon vertical distribution of Appalachian salamanders, *Plethodon*, HAIRSTON 433.—*Eurycea lucifuga*, SINCLAIR 1016.

Amphibia Salientia.—On S. African frogs, MILLER, W. T. 721.—Ecological study of *Microhyla* in Kansas, FREIBURG 358.—*Hyla phaeocrypta*, PARKER, M. V. 823.

Chelonians and Crocodiles.—*Testudo graeca* of N. Africa, GUIBÉ 421.—*Terrapene ornata*, NORRIS & ZWEIFEL 776.—Crocodiles of India, MOSES 736.

Lizards.—*Uma notata*, NORRIS 774.—*Dracaena guianensis*, OLIVER 794.—On a captive *Heloderma suspectum*, DURHAM 285.—Biology of *Leiopisma laterale*, figs., LEWIS 632.—Of Hong Kong, HERKLOTS 470.

Snakes.—On *Thamnophis elegans* rassenkreis, FOX, W. 351.—Ecology and ethology of Vipers of France, GIRONS 395.—Usefulness of *Vipera*, MEYER 715.—*Vipera ursini*, DREUX & GIRONS 276; WERNER 1191.—Ecology of *Zamenis viridiflavus*, BAUDRIMONT 76.—*Halden v. valeriae*, ovoviviparous, notes, SINCLAIR 1016.—Of Hong Kong, HERKLOTS 470.

Ecological Associations.—Cave dwelling, JEANNEL 529.—Bibliography of marine ecological relations of living amphibians, reptiles, except turtles, SCHMIDT, K. P. 969.

Effects of Environment.—Of Dinosaurs, COLBERT, E. H. 220.—On reptiles and amphibians in burned-over areas in Florida, BABBITT 50.—Coloration of reptiles of the "malpais" of Mexico, LEWIS 633.—*Pelobates cultripes*, effects of abnormal rain-fall, in the Pyrenees-Orientales, PETIT & DELABIE 849.—DDT spraying effect on box turtles, STICKEL 1075.—Distributional implications of temperature tolerances in toads, STUART 1085.—Effect of vegetation on breeding of *Molge*, WIMPENNY 1201.—Temperatures of entrance and emergence of snake den populations, WOODBURY 1216.

Migration.—Frogs in Oklahoma during winter, BLAIR 95.—Road records as indicators of amphibians, CARPENTER & DELZELL 191.—Marine turtles, DERANIYAGALA 261.—To breeding pond by *Ambystoma maculatum*, FINNERAN 329.

Distribution.—Physiographic influences, CURTIS 245.

Dispersal.—Late summer movements of *Chelydra s. serpentina*, KLIMSTRA 571.

Territory.—Territory and display in *Liocephalus carinatus coryi* and *Hol-*

brookia texana, EVANS, L. T. 313, 314.—Madagascan batrachians, MILLOT & GUIBÉ 724.

General habits.—Of Plesiosaurs, SHULER, E. W. 1004.—Reptiles and amphibians of Dorset, DALTON 250.—Of some Jamaican snakes, CAMPBELL 180.—Of some Virginia amphibians and reptiles, WERLER & MCCALLION 1189.—*Rana fukienensis*, figs., HAN-PO-TING 446.—*Rhineura floridana*, NEILL 756.—*Cynops chinensis*, ROMER, J. D., 923.—*Rhyacotriton o. olympicus*, STEBBINS & LOWE 1060.—Of *Cyclura macleayi*, BUIDE 166.—*Xantusia vigilis*, MILLER, M. R. 720.—*Hoplocercus spinosus*, MERTENS, R. 704; and SICK 1007.—Natural history notes on *Leptotyphlops humilis*, BRATTSTROM & SCHWENKMEYER 140.

Feeding habits.—Gastrolith in White Jura of Germany, BOOMGAARD, W. H. 112.—Of Plesiosaurs, SHULER, E. W. 1004.—Notes on the role of Crawfishes in the ecology of reptiles and amphibians, NEILL 760.—Feeding mechanisms in frog larvae, SAVAGE, R. M., 959.—Food of amphibia and reptilia in Alaysk Valley, Pamir, Russia, ANDRUSHKO 32.—Amphibians of Portuguese Guinea, MANAGAS 676.—Some snakes feeding on frogs and frogs on snakes in Victoria, Australia, FLEAY 341.—Observations showing biological necessity for size selection of food objects by young toads, BRAGG 126.—Methods of snakes, WERNER, R. M. 1192.—Ruffed grouse nest predation by black snake, HARDY 450.—*Amphiuma tridactylum*, CHANEY 203.—Food of *Amphiuma means*, HAMILTON, W. J. 440.—On axolotls in captivity, MONK 731.—Stomach contents of *Plethodon cinereus*, PARK & EDGREN 822.—Food of *Rana esculenta* in natural water reservoirs and artificial fish ponds in Poland, JUSZCZYK 540.—*Rana catesbeiana* in Puerto Rico, PEREZ 839.—*Bufo bufo*, EIBL-EIBESFELDT 300.—*Gecko swinhonis* and *Takydromus septentrionalis* in captivity, BORING, CHANG & CHANG 115.—*Anolis porgatus*, OTERO 813.—*Crotophytus reticulatus* in captivity, KLEIN 569.—*Eumeces laticeps*, GOIN 404.—*Hemiderma suspectum*, HENSLEY 468.—*Thamnophis s. sirtalis* in New York State, HAMILTON 441; *Thamnophis sirtalis* eating *Anolis*, ORLEB 806.—*Natrix sipedon insularum* of Pelee Id., Lake

Erie, Ontario, HAMILTON 442.—*Coniophanes imperialis imperialis*, DAVIS, W. B. 255.—*Terrapene carolina* in captivity observed eating *Anolis*, MEHRTENS 699.

Egg laying.—*Eurycea bislineata rivicola*, WOOD & DUELLMAN 1214.—Behaviour of *Calotes calotes*, TAYLOR, E. H., 1100.—Den populations of *Crotalus viridis lutosus*, WOODBURY 1216.—Turtles of Perak River, LOCH 645.

Breeding and parental habits.—Of some Texan and Mexican reptiles, WERLER 1188.—The effect of vegetation on newts, WIMPENNY 1201.—Salamanders, PRECHTL 875.—Puzzle of *Scaphiopus huerterii*, BRAGG 122.—*Chelonia mydas* season in Borneo, HARRISSON 452.

Courtship.—On courtship and "combat" behavior in snakes, SHAW 999.—*Eumeces egregius* in Florida, BABBITT 49.—*Elaphe vulpina vulpina*, SIMONSON 1012.—Notes on captive *Drynarchon c. melanurus* ♀ and *D. c. couperi* ♂, TINKLE 1117.

Sex relations.—Behaviour of *Bufo nayaritensis* during amplexus, FIRSCHEIN 330.—Pairing of *Psammotromus a. algerius*, BIRKENMEIER 92.—*Eumeces egregius* in Florida, BABBITT 49.—*Elaphe vulpina vulpina*, SIMONSON 1012.

Arboreal habits.—Bromeliad herpetofauna in Florida, NEILL 759.

Aquatic habits.—*Scelotes astrolabi* of Madagascar, MILLOT 723.

Population studies.—Area in Piedmont region, Georgia, NEILL 758.—Lake Wingra, Wisconsin, NOLAND 773.—Aggregation of *Plethodon dixi* in caverns in Virginia, FOWLER 347.—Age distribution of population and its dynamics in *Bombina bombina*, BANNIKOV 63.—Gartersnakes in the Puget Sound region, HEBARD 458.—Body proportions of Italian mainland and island *Lacerta*, KRAMER 578.—Density of snakes on Penikese Id., Mass., SEIBERT 989.—Of snake den in Utah, WOODBURY 1216.—Chronofauna, OLSON, E. C. 796.

Enemies and Defence.—Amphibians, LIERATH 639.—Skin secretions used in defence by *Ambystoma maculatum*, BARACH 64.—Crocodiles, BRELSFORD 142.

Fighting.—Snakes of Australia, FLEAY 342.—*Ahaetulla formosa* attack on

lizard, RAWLINGS 894.—*Crotalus cerastes*, LOWE & NORRIS 656.

Parasitism.—*Necturus maculosus* as host to mussels, HOWARD 508.—Occurrence of *Balanitidium* as a lethal parasite in toad tadpole, SPEIDEL 1052.—Of amphibia, Protozoa and Cestoda, WALTON 1177.—Of British species, BAYLIS 79.—In snakes, effect, mode of infection, &c., GOODMAN 406.—Tick on *Testudo graeca*, BRÜNNER 159.

Diseases, etc.—Red Leg (*Proteus hydrophilus*) infection preventative? AMBRUS & HARRISON 26.—Rickets and osteoporosis in *Xenopus laevis*, BRUCE & PARKES 157.—Spontaneous appearance of multiple tumours, LLAMBES & GARCIA 644.—Tumours in poikilotherm vertebrates, STOCK 1079.—A spontaneous carcinoma in *Triton alpestris*, RUKENBACHER 914.—On osteochondro-fibroplastic tumours in *Cyclura cornuta*, RODHAM 918.—Septecemia in tortoises in Paris menagerie and vaccine use, URBAIN, DECHAMBRE & PIETTE 1147.—Note on *Testudo radiata*, POPP 872.

Technique.—Usefulness of environmental indices of egg development, MIKULSKI 718.—Water system acts as reptile and amphibian trap, HAWKEN 455.—Methods of snake work in Institute Butantan, VAZ 1157.—Loss of jaw-tags by toads, STILLE 1078.—Marking snakes method, WOODBURY 1216.—Controlled snake study, GERDTS 386.—Field preservation of amphibian eggs, BRAGG 132.—Keeping and breeding axolotls, MONK 731.—Keeping reptiles in captivity, ALLEN, E. R. & NEILL 15.—Breeding *Xenopus laevis* in mass, VAGNER 1149.—Feeding captive snakes, SCHIDA 965.—Paralyzing salamander larvae by electric shock, KEMP & GAMERO-REYES 560.—Collecting, MYERS 750.—Making a collection of reptiles and amphibians, SMITH, A. G. 1024.—Collecting small aquatic animals, BRAGG 133.—A funnel trap for reptiles, FITCH 339.—Collecting lizards at night under bridges, CONANT 227.—Concerning collecting iguanas in Panama, LYMAN 663.—Lizard collecting pistol described, fig., SCHMIDT, K. P. 971.—Collecting *Urosaurus ornatus*, HOFFMEISTER 494.—Collecting of *Holbrookia texana*, KLEIN 570.—Crocodile hunting in Uganda, ANON. 6.—

Angling for Crocodiles, KRISHNAMURTHY 582.—1st aid, DAVIS, H. T. & BRIMLEY 253.—Chicago Museum exhibits, POPE 867.

Aquaria, Terraria, etc.—Notes, MÜLLER, W. 741.—Keeping reptiles in captivity, ALLEN, E. R. & NEILL 15.—*Limnodonastes tasmaniensis*, MÜLLER, W. 742.—On *Uromastix acanthinurus*, HOCH 490.—*Cordylus cataphractus*, ROSENBERG 928.—*Bitis arietans*, SCHETTY 964.

Hibernation.—KAYSER 557.—Temperature data on terrestrial hibernation of *Rana clamitans*, BOHNSACK 108.—*Eumeces laticeps*, GOIN 404.—Snake den in W. Illinois, SCHRODER 981.—Snake Den, WOODBURY 1216.

Moult.—Water uptake and moulting in *Bufo regularis*, EWER 318.—Chameleon, figs., KIRK 564.—Increased rate of ecdysis in *Crotalus*, caused by chiggers damaging a facial pit, LOOMIS 647.

Longevity.—Age of *Terrapene carolina*, EDNEY & ALLEN 296.—*Terrapene c. carolina*, age recorded 50 years, photo, PRICE 876.—Snakes in captivity in the United States of America, PERKINS, C. B. 841.

Song, voice, etc.—On salamander voices, MYERS 747.—Sound production in salamanders, MASLIN 691.—*Salamandra s. salamandra* and *S. s. quadrivirgata*, MENGES 702.—Of German frogs, NEUBAUER 764.—Of frogs and toads, MANN, BRICKSON & THOMPSON 680.—“Humming” by tail vibration of *Elaphe quadrivittata*, REUSS 908.—Sounds, other than “hiss”, from N. Queensland snakes, DEVANNY 268.

Locomotion.—“Gliding” by amphibians and reptiles, OLIVER 793.—Surface locomotion by *Rana*, ROMER, J. D. 924.—*Uma notata*, NORRIS 774.—Of *Homalopsis buccata*, BERGMAN 86.

Behaviour.—Study in comparative behaviour of *Plethodon glutinosus* and *cinereus*, HICKMAN & VERNBERG 480.—Protective behaviour and photic orientation in aquatic adult and larvae in *Eurycea bislinenta* × *cirrigera*, WOOD 1213.—Dermal secretion of *Scaphiopus* suggests sexual difference, BRAGG 128.—Phragmosis and the “Unken Reflex” in *Pternohyla fodiens*, FIRSCHEIN 331.—Territory and display in *Liocephalus carinatus coryi* and *Holbrookia texana*,

EVANS, L. T., 313, 314.—On "combat" and courtship behaviour in snakes, figs., SHAW 999.—Snakes, CARLANDER & MOORMAN 187.—Notes on *Natrix subminiata*, WEEL 1184.—Head bobbing in *Elaphe o. quadrivittata*, MEHRTENS 700.—Humming by tail vibrations of *Elaphe quadrivittata*, REUSS 908.—*Storia occipitamaculata* of Ontario, intimidation display, WARBURTON 1179.—"Playing possum" habits of the Ringhals Cobra, HULME 519.—Aggressive behaviour of *Crotalus cerastes*, LOWE & NORRIS 656.—Of young captive *Crocodylus acutus* DUTT 287.

Social and gregarious habits.—Captive herd of *Testudo elephantopus*, EVANS, L. T. & QUARANTA 317.—Social and anti-social habits of *Scaphiopus huerterii* tadpoles, BRAGG 124.—*Ctenosaura pectinata*, EVANS, L. T. 311.

Economics.—Frogs in Puerto Rico, PEREZ 839.—Reptiles and amphibians as fish predators in Germany, MENGES 701.—Turtle fishery in Aino Atoll, Marshall Ids., HIATT 478.—Turtle, terrapin and frog fisheries, TRESSLER & LEMON 1133.—On crocodile oil and use in cosmetics, BENNETT and others 84.

VENOMS

AMPHIBIA

Observations.—On salamander poison, GESSNER 387.—Secretion compound of *Salamander maculosa* or *S. atra*, SCHOPF & OTHERS 975.—Poison of *Dendrobates tinctorius* used for poisoning arrows and killing animals and birds, WASSEN 1180.—On venom of *Bufo marinus*, RIBEIRO D'SOUZA 912.

SNAKES

Observations.—On bites by British specimens on children, MITCHELL, R. G. 728.—On bites in Indiana, incidents recorded 1930-1950, MINTON 726.—Notes on New South Wales venomous snakes, comparative danger, ORMSBY 807.—Oxidizing agents (enzymes), EICHBAUM & STAMMREICH 301.—Fluorescence and photoinactivation of venom, FERRI & GUIDOLIN 327.—Enzymes and enzyme inhibitors, GHOSH 389.—Chromato-graphic separation of phosphatases of snake venom, HURST & BUTLER 521.—On relation

between proteolytic and blood clotting activities, JÁNSZKY 528.—Formosan species and genera, JINTETSU 530 ; 531.—Effects of venoms, and influence on blood coagulation, KLOBUSITZKY 573.—On anticoagulant effect of cobra venom, KRUSE & DAM 585.—On blood coagulation, OH 784 ; 785.—Influence of blood-sugar on venom of Siamese snakes, RAI 885.—Effects of venoms on carbohydrates, RI 911.—Toxicity of principal snake venoms of Brazil, SCHÖTTLER 976.—The L-amino acid oxidases of snake venom, SINGER & KEARNEY 1019.—Statistics of bites in Formosa, To 1120.—Effect of Formosan snake venom on rabbit liver, UKINO 1139.—Instituto Butantan, VAZ 1157.—Venom types, WERLER 1187.—Elapinae and Viperine, FLECKENSTEIN & FETTIG 343.—Action mechanism of cobra venom on muscle contraction, SARKAR 954.—Action of cobra venom on nerve-muscle of frog, SARKAR & MATTRE 955.—Chemical study of Formosan cobra venom, UEDA, SASAKI & PENG 1138.—On *Naja naja atra* and *Bungarus multicinctus*, of Formosa, CHIN 213.—*Naja naja atra* ; Study of fractionated venom, PENG 833 ; and, Venom, theurapeutic experiments and use as pain suppressor, To & Uei 1122 ; and, Venom, theurapeutic use and effect on pain suppression, To & OH 1123.—*Bungarus multicinctus* ; Cause of death due to venom, OUYANG 814 ; and, On venom, To & TIN 1124.—Viper bite in France, case history, CARRAUD 192.—*Vipera berus*, British specimen effect of bite, GODDARD 400.—*Vipera ursinii*, DUGUY 279.—Action of *Vipera aspis* on chicken embryo fibroblasts, LASFARGUES & FINE-LASFARGUES 609.—Action of *Vipera aspis* venom, LASFARGUES & FINE-LASFARGUES 610.—Study on *Vipera russellii formosensis*, LEE 624.—*Bothrops jararaca* ; Proteolytic action of venom on hemoglobin and casein as substrates, AZEVEDO & MARTIRANI 48 ; and, proteolytic action of venom on a gelatine substrate, MARTIRANI & AZEVEDO 689.—Iron content of venoms of *Bothrops* and *Crotalus*, VIDAL BREARD 1161.—Effect of *Trimeresurus mucrosquamatus*, CHIN 210, 211, 212, 214 ; and, Venom, PENG 832 ; and, Action of venom on circulation and respiration, PENG 834 ; and, Effects of venom

on carbohydrates, To & CHIN 1121 ; On therapeutics of *T. mucrosquamatus*, Bungarus multicinctus, RAI 886.—*T. mucrosquamatus*, *T. gramineus*, Agkistrodon acutus, *Naja naja atra*, Bungarus multicinctus, CHIN 215 ; and, Experiments with venom, FUJII 366.—On *T. mucrosquamatus*, *T. gramineus*, Agkistrodon acutus, KYU 590.—Near ultraviolet absorption spectra of *Crotalus* venom, HORTON 505.—*Crotalus adamanteus*, Agkistrodon piscivorus, neutralization of venom by *Lampropeltis getulus* serum, PHILPOT & SMITH, R. G. 853.—Effect of venom injections in *Crotalus v. viridis*, WOODBURY 1216.

Treatment : Antivenines. — MINTON 726.—1st Aid, DAVIS, H. T. & BRIMLEY 253.—Administration and general care discussed, PERERIA 838.—Antigen-antibody relations in the present antivenin production in Brazil, SCHÖTTLER 977.—Viper in France, CARRAUD 192.—Snakes of Texas, WERLER 1187.—Results on *Bitis arietans*, *gabonica*, *nasicornis* bites, CECCALDI, TRINQUIER, ARNOULT & PELLISSIER 198.—Production of polyvalent antivenin against *Trimeresurus flavovirides*, Agkistrodon blomhoffii, BURNS 173.—Relations of blood-sugar fluctuation and production of immune bodies to *Trimeresurus mucrosquamatus*, PENG 832.—Paraspecific action of *Bothrops* and *Crotalus* antivenins, SCHÖTTLER 978.

GEOGRAPHICAL DISTRIBUTION

General : Zoogeography. — Bibliography and Catalogue of Fossil Vertebrates of North America, HAY, O. P. 456.—Physiographic influences, CURTIS 245.—Fauna of Czechoslovakia in relation to C. Europe, STEPANEK 1068.—On reptile fauna of Iran, WETTSTEIN & LÖFFLER 1193.—Guatemalan Plateau, STUART 1084.

PALEARCTIC REGION

Europe.—SCHWEIZER 984.

Gt. Britain.—LEUTSCHER 630.—MITCHELL, R. G., 728.—SCHMIDT 969.—SMITH, M. A. 1038.

England.—LEUTSCHER 629.—SMITH, M. A. 1039 ; 1040.—Surrey (*Bookham Common*), PANCHEN 818.—Dorset, DAL-

TON 250 ; LANG, W. D. 599.—Cornwall, HAMILTON, A. G. 439.

France.—GIRONS 395 ; Pyrenees, DUGUY 278.—Reims, MENU 704.—PETIT 848.—S.W., Rochereil grotto, Grand Brassac, Dordogne Dept., ASTRE 46.—(Saint-Cyprien-canal), Pyrenees Orientales, PETIT & DELABIE 849.

Belgium. — JACQUEMART 526. — (Lorraine), REMACLE 905.

Italy. — KRAMER 578. — (Padua), FACCO 320.

Spain.—(Toledo), FREYTAG 360.

Denmark.—PFAFF 852.

Norway. — OFTEDAL 783. —SOOT-RYEN 1050.—STØP-BOWITZ 1082.

Sweden. — (Sarek National Park,) PETTERSON 850.

Finland.—HAARTMAN 425.—KALELAN 547.—SUOMALAINEN & VOIPIO 1086.—WIKSTRÖM 1194.

Poland.—JUSZCZYK 540.

Czecho-Slovakia.—HENNIG 465.—STEPANEK 1068.—(Rimavská Sobota, Slovakia), OLIVA 789.—(Prague), HOUBA 507 ; OLIVA 790.—(Rakovnik, nr. Prague), OLIVA 791.

Yugoslavia.—RADOVANOVIC 884.

Germany. — BOETTGER 107. — MENGES 701.—NEUBAUR 764.—RÜHMEKORF 939.—TENIUS 1107.—(Hanover), TENIUS 1106.

Austria.—(Carinthia), PUSCHNIG 881. (Kärnten), SOCHUREK 1047.

Russia. — BERG, L. S. 85. — TCHERNOV 1105.—(Voronezh Province), SEVERTZOV 995.—(Alaysk Valley, Pamir), ANDRUSHKO 32.

Turkey.—KOSSWIG 576.

Greece.—ARGENTI & ROSE 41.—(Cyclades), MERTENS, R. 709.

Dalmatia.—SCHMIDT 969.

Palestine : Israel. — (Palestine), HAAS, G. 426.—(Israel), HAAS, G. 427.

Iran.—WETTSTEIN & LÖFFLER 1193.

Tibet.—SMITH, M. A. 1041.

N. Africa.—GUIBÉ 421 ; LAURENT 611 ; LAURENT 613 ; LOVERIDGE 653 ; SCHMIDT 969 ; VILLIERS 1164 ; 1165.—(Libya), SCORTECCI 985.

Egypt.—SCHMIDT 969.

Mediterranean Islands.—(*Balearic Ids.*) (Formentera), MEYER 716.—(*Ionian Ids.*), SCHMIDT 969.

East Atlantic Islands.—(*Canary Ids.*), KREFFT 579.—*Cape Verde Ids.* (*S. Antao, S. Vicente, S. Tiago, Sal.*), DEKEYER & VILLIERS 258.

China.—DERANIYAGALA 262.

ORIENTAL REGION

India.—BAROOA 67; CHATTERJEE 205; MOSES 736; ROMER, J. D. 924; SCHMIDT 969.—(*Waltair, Madras*), GANAPATI & KRISHNAN NAYAR 382.

Ceylon.—DERANIYAGALA 263; TAYLOR, E. H. 1100.

Indo-Chinese Subregion.—*Formosa*, CHIN 213; 215; CHU 217; FUJII 366; JINTETSU 530; 531; KYU 590; LEE 624; OH 784; 785; PENG 832; RI 911; TO 1120; TO & CHIN 1121; TO & TIN 1124; UEDA, SASAKI & PENG 1138; UKINO 1139.—*China*, DERANIYAGALA 262; ROMER, J. D. 923; SCHMIDT 969; (*Fukien*), HAN-PO TING 446.—*Assam (Manipur State)*, ACHARJI & KRIPALANI 8.—*Hainan*, SCHMIDT 969.—*Siam*, RAI 885.—*Thailand*, SUVATTI 1087.—*Hong Kong*, HERKLOTS 470; POPE & ROMER 869; (*Lan Tao Id.*), ROMER, J. D. 922.

Malaysia.—*Java*, BRONGERSMA & HELLE 152; SCHMIDT 969; WEEL 1184.—*Sumatra*, BRONGERSMA & HELLE 152.—*Borneo*, BRONGERSMA & HELLE 152; HARRISSON 452; PERAK, LOCH 645.

Philippines.—LAWAS 615; SCHMIDT 969.—*Sunda Archipelago*, SCHMIDT 969.

AUSTRALIAN REGION AND POLYNESIA

Solomon Islands, including (*Guadalcanal Id.*), TANNER 1096.

Bismark Archipelago.—SCHMIDT 969.

Admiralty Ids. (*Los Negros*), TANNER 1095.

Marshall Islands (*Arno Atoll*), HIATT 478; MARSHALL 686.

Australia.—FLEAY 342; MAC-INNES 667; WORRELL 1219.—*West*, GLAUERT 398.—*South*, MITCHELL, F. J. 727.—*Victoria*, BRAZENOR 141.—*Murry*

River, Victoria, FLEAY 341.—*N. Queensland*, DEVANNY 268.—*Israelite Bay*, SERVENTY 994.—*New South Wales*, ORMSBY 807.

New Zealand.—ENGEL-BAIERSDORF 305; HILL 482; MERTENS, R. 712; STEPHENSON, E. M. 1069; STEPHENSON, N. G. 1071; SZARSKI 1091.

ETHIOPIAN REGION

Africa.—LAURENT 611; 613; LOVERIDGE 653.

East Africa.—*Tanganyika*, BATTERSBY 75; BENNETT and others 84 *Tanganyika Territory, Kenya C., Uganda*, LOVERIDGE 652.—*Uganda*, ANON. 6; PERKINS, E. A. T. 842.—*Mozambique*, MANACAS 677.—*Nyasaland*, LOVERIDGE 654.—*Abyssinia*, SCORTECCI 986; *Sagan Omo*, SCORTECCI 986.

West Africa.—*Cameroons*, MONARD 730.—*Portuguese Guinea*, MANACAS 674; 675; 676; *Belgian Congo*, WITTE 1208.

Central Africa.—LAURENT 612.

South Africa.—MILLER, W. T. 721.

Madagascar.—MILLOT 723; MILLOT & GUIBÉ 724.

Mauritius.—(*Serpent Island*), LOVERIDGE 651.

NEARCTIC REGION

Canada.—*British Columbia*, Scott *Id. group*, CARL, GUIGUET & HARDY 186.—*Nova Scotia (Lake Kejimikuyik)*, BLEAKNEY 100.—*Ontario*, EVANS, H. E. & ROECKER 310; FOX, W. S. 352; (*Dundas Marsh, Hamilton, Ontario*), JUDD 539; *Pelee Id. (Lake Erie, Ontario)*, HAMILTON 442; *Ontario (Sault Ste. Marie region)*, WARBURTON 1178; 1179.—*New Brunswick (Fundy National Park)*, SOLMAN 1048.—*Alberta*, STEBBINS 1059.

United States of America.—DOWLING 271; PERKINS, C. B., 841; *N. America*, FREYTAG 361; HAY, O. P. 456; MERTENS, R., 713.—*Western north America*, STEBBINS 1059.

North Eastern States.—DAVIS, H. T. & BRIMLEY 253; SMITH, P. W. & BURGER, W. L. 1042.—*Illinois*, SMITH, P. W. 1043; SCHRODER 981, 982; (*Chicago area*), POPE 867; (*Chicago area*), SMITH, A. G. 1025.—*Indiana*, LINK 640; LIST 641; MINTON

726.—*Iowa*, CARLANDER & MOORMAN 188 ; CARLANDER & MOORMAN 189 ; 190 ; KLIMSTRA 571 ; MILLER, L. S. 719.—*Maryland*, COOPER 230, 231 ; MARSIGLIA 687 ; (*Coastal plain*), MEANLEY 696 ; (*Alleghanian zone*), MEANLEY 697 ; (*Austroproan zone*), MEANLEY 698.—*Massachusetts* (*Penikese Id.*), SEIBERT 989.—*Michigan*, MALDONADO-KOERDELL 673 ; WALLEY & SMITH, P. W. 1176 ; (*Little Rogg Id.*) and *Drummond Id.*, MANVILLE 681.—*Ohio*, EDNEY & ALLEN 296 ; HAN-PO TING 445 ; LINK 640 ; PRICE 876 ; *Ohio* (*Greene Cnty.*), DUELLMAN 277.—*Pennsylvania* (*Lebanon County*), HEILMAN 460.—*Wisconsin*, DICKINSON 269 ; SUZUKI 1088 ; (*Lake Wingra*), NOLAND 773.

South Eastern States.—DAVIS, H. T. & BRIMLEY 253.—*Alabama*, SMITH, H. M. & LIST 1034.—*Arkansas*, POPE, C. H. & S. H. 868.—*Carolina*, MITTLEMAN 729 ; SCHMIDT 969 ; *North Carolina*, MALDONADO-KOERDELL 673 ; REESE, R. W., 899.—*Florida*, GOIN 402 ; NEILL 756 ; 759, 761 ; SCHMIDT 969 ; *Florida, N.*, GOIN 404 ; (*Key West*), BABBITT 49 ; (*Dade County*), BABBITT 50.—*Georgia*, HUMPHRIES 520 ; (*Piedmont region*), NEILL 758.—*Kentucky*, MITTLEMAN 729.—*Louisiana*, MALDONADO-KOERDELL 673 ; ORTON 811 ; SIEKMANN 1011 ; (*New Orleans*), ANDERSON 29 ; (*Delta Nat. Park*), ARNY 44.—*Missouri*, ORTON 810.—*Tennessee*, PARKER, M. V. 823 ; SINCLAIR 1014, 1015, 1016.—*Virginia*, HOFFMAN 493.—WERLER & MCCALLION 1189 ; (*Dixie Caverns*), FOWLER 347 ; (*Lee County*), FOWLER & HOFFMAN 348.

Middle and Western States.—*Arizona*, BURGER 169 ; CHENOWETH 208 ; HENSLEY 469 ; KLAUBER 566 ; REED 897 ; SANDERS & SMITH, H. M. 951 ; SHANNON 997 ; TANNER 1097 ; TIHEN 1113.—*Colorado*, BLAIR 97 ; BURGER 169 ; JONES-BURDICK 535 ; RODECK 917 ; SANDERS & SMITH, H. M. 951 ; STEBBINS 1059.—*Idaho*, FOX, W. 350 ; STEBBINS 1059.—*Kansas*, BRAGG 123 ; BREUKELMAN & CLARKE 144 ; FREIBURG 358 ; MALDONADO-KOERDELL 673 ; SANDERS & SMITH, H. M. 951 ; (*Fort Leavenworth Military Reservation*), BRUMWELL 158.—*Montana*, STEBBINS 1059 ; (*Mission Mountains*), BRUNSON & DEMAREE 161.—*Nebraska*, BRAGG 123 ; LOOMIS & JONES 648.—

Nevada, KLAUBER 566 ; SHANNON 997 ; STEBBINS 1059.—*New Mexico*, BUNDY 168 ; BURGER 169 ; CHENOWETH 208 ; KOSTER 577 ; NORRIS & ZWEIFEL 776 ; SANDERS & SMITH, H. M. 951 ; STEBBINS 1059 ; TIHEN 1113 ; (*Sonora*), HENSLEY 469.—*Oklahoma*, BLAIR 95, 96 ; BRAGG 123, 124, 125, 127 ; BRAGG AND OTHERS 134 ; BRAGG & DUNDEE 135 ; BRAGG & HUDSON 136 ; BRAGG & SANDERS 137 ; DUNDEE & BRAGG 280 ; GLASS 396 ; LOOMIS & WEBB 649 ; REESE, R. W. & SMITH, H. M. 901 ; SANDERS & SMITH, H. M. 951 ; (*Adair County*), FIRSCHEIN & MILLER 334.—*Oregon*, FOX, W. 350.—*Texas*, AXTELL 47 ; BRAGG & SANDERS 137 ; BROWN 153 ; 153a ; 154 ; BURGER 169 ; CURTIS 244 ; CURTIS & TINKLE 246 ; DAVIS, W. B. 255 ; GLASS & HARTWEG 397 ; LIVEZEY 643 ; MILSTEAD 725 ; RAMSEY 887 ; REESE, R. W. & FIRSCHEIN 900 ; SANDERS & SMITH, H. M. 951 ; TINKLE & CURTIS 1118 ; WERLER 1187, 1188 ; (*Southern*), SMITH, P. W. & BURGER 1044 ; (*Lower Rio Grande Valley*) BROWN 155 ; (*The Edwards Plateau*), CURTIS 245.—*Utah*, BURGER 169 ; CHENOWETH 208 ; FITCH & TANNER 340 ; SHANNON 997 ; (*Tooele County*), WOODBURY 1216.—*Wyoming*, STEBBINS 1059.

Pacific Coast States.—*California*, BRATTSTROM & SCHWENKMEYER 140 ; BURGER 169 ; FOX, W. 350, 351 ; KLAUBER 566 ; MYERS 749 ; SCHMIDT 969 ; STEBBINS 1059 ; TINKHAM 1116 ; (*Southern*), LOWE & ZWEIFEL 657 ; (*Shasta County*), GORMAN 407 ; (*Santa Ana Mts.*), PEQUEGNAT 837 ; (*Channel Ids.*), SAVAGE, J. M. 958 ; (*The San Felipe road*), SLEVIN 1020.—*Oregon*, BURGER 169 ; DUNLAP & STORM 281 ; PIMENTEL 857 ; STEBBINS 1059.—*Washington*, FOX, W. 350 ; STEBBINS 1059 ; (*King County*), HEBARD 459 ; (*Puget Sound region*), HEBARD 457, 458.

CENTRAL AMERICA

BURGER 170.—DUNN & STUART 284.—TAYLOR, E. H. 1099.

Mexico.—BURGER 169, 170 ; BURGER & ROBERTSON 171 ; CONANT 226 ; EVANS, L. T. 311 ; FIRSCHEIN 330, 331, 332 ; LEWIS 633 ; REED 897 ; REESE, R. W. & FIRSCHEIN 900 ; SANDERS & SMITH, H. M. 951 ;

SHANNON 998 ; SMITH, H. M. 1030, 1031 ; SMITH, H. M. & LANGEARTEL 1033 ; SMITH, P. W. & BURGER 1044 ; SMITH, P. W. & H. M. 1045 ; TIEN 1114 ; WERLER 1188 ; (*Baja California*), BRATTSTROM 139 ; (*Acapulco*), EDGREN 294 ; (*Guerrero*), HALL, C. W., 435 ; (*Zumpango*), MALDONADO-KOERDELL, M. 672 ; (*Isthmus of Tehuantepec*), SMITH, H. M. & SMITH, P. W. 1036 ; (*Chiapas*), SMITH, P. W. & H. M. 1046 ; (*Veracruz*), TAYLOR, E. H. 1101.

Guatemala.—STUART 1084, 1085.

Honduras.—ORTON 809. — CARR 1003.

Costa Rica.—TAYLOR, E. H. 1102.

Panama.—LYMAN 663. — TAYLOR, E. H. 1098.

West Indies.—CHARDON 204. — *Bahamas*, GOIN 403. — *Cuba*, AGUAYO 11 ; 12 ; ALOYO 17 ; BUIDE 166 ; SCHMIDT 969. — *Haiti*, GRANT 408. — *Jamaica (Malvern)*, CAMPBELL 180. — *Jamaica*, UNDERWOOD 1146.

SOUTH AMERICA

DUNN & STUART 284 ; *Latin America*, CHARDON 204.

Argentina. — GALLARDO 372 ; VELLARD 1158.

Bolivia.—MANN 679 ; VELLARD 1158 ; (*Puerto Rico*), PEREZ 839.

Brazil.—BOKERMANN 109 ; HOGE 496 ; LUTZ 661 ; SCHMIDT & INGER 973 ; SCHÖTTLER 976, 977 ; VANZOLINI 1155 — (*Pará*), AMARAL 23, 24. — (*Alto Xingu*), CARVALHO 193. — *São Paulo (Queimada Grande Id.)*, HOGE 497. — (*S.E.*), LUTZ 660. — (*Itatiaia*), LUTZ 662. — *São Paulo (Alcatrazes Id.)*, LEÃO 616. — *São Paulo (Queimada Grande Id.)*, LEÃO 617.

Ecuador.—VELLARD 1158.

Chile.—HELLMICH 461. — VELLARD 1158.

Colombia.—MYERS & FUNKHOUSER 751. — (*Malpelo Id.*), SCHMIDT 969.

Guiana.—OLIVER 794.

Patagonia.—KRIEG 581.

Peru.—PETERS 846 ; TITSCHACK 1119 ; VANZOLINI 1155, 1158.

Venezuela.—MARCUZZI 684, 685 ; PIFANO, ROMER & MONTILLA 856 ; RÖHE 920.

Galapagos Islands.—BLOOMBERG 101 ; SCHMIDT 969.

PALEONTOLOGY AND GEOLOGICAL DISTRIBUTION

Principles of Biostratonomy, MÜLLER A. H. 739. — Palaeogeography of the Mediterranean, Reptilian evidence, FURON, R. 367. — Recent, MALDONADO KOERDELL, M. 672.

Carboniferous.—BAIRD, D. 54 ; FRENGUELLI, J. 359 ; OLSON, E. C. 802.

Permian.—BAIRD, D. 54 ; BOONSTRA, L. D. 113 ; EFREMOV, I. A. 298 ; FRENGUELLI, J. 359 ; GIDON, M. 391 ; HUENE, E. von 509 ; 511 ; LUNDELIIUS E. 659 ; OLSON, E. C. 796, 797, 798, 799, 801, 802 ; OLSON, E. C. & MILLER, R. L. 803 ; PRICE, L. I. 877 ; SAINT-SEINE, P. de 945 ; SPINAR, Z. 1055.

Trias.—BRINK, A. S. 147 ; COLBERT E. H. & MOOK, C. C. 221 ; EFREMOV, I. A. 297 ; HUENE, E. von 509 ; HUENE, F. F. von 516, 517 ; MUTSCHLECHNER, G. 746 ; SLUYS, M. 1023 ; YABE, H. & SHIKAMA, T. 1223.

Jurassic.—BOOMGAARD, W. H. 112 ; FAUL, H. & ROBERTS, W. A. 322 ; HUENE, F. F. von 513, 518 ; KLINGHARDT, F. 572 ; LAPPARENT, A. F. de & ZBYSZEWski, G. 607 ; SHIKAMA, T. 1001 ; ZAPPE, H. 1229.

Cretaceous.—BONARELLI, G. 110 ; COLLINS, R. L. 223 ; GREGORY, J. T. 411 ; LAPPARENT, A. F. de 605, 606 ; LAVOCAT, R. 614 ; SCHMIDT, K. P. 968 ; SHULER, E. W. 1004 ; STERNBERG, C. M. 1073, 1074 ; SWINTON, W. E. 1090 ; WELLES, S. P. 1186 ; WIMAN, C. 1200.

Tertiary. — FURON, R. 367 ; HESCHELER, K. & KUHN, E. 477 ; LIEBUS, A. 637.

Oligocene.—TAYLOR, E. H. 1103 ; ZANGERL, R. 1227.

Eocene. — STAESCHE, K. 1058 ; ZANGERL, R. 1228.

Miocene. — EAMES, F. E. 293 ; HERRE, W. & LUNAU, H. 475 ;

OELRICH, T. M. 779 ; PEJOVIĆ 830 ; SAVAGE, D. E. 957 ; TIHEN, J. A. 1115.

Pliocene.—CRUSAFONT PAIRO, M. & TRURJOLO SANTONJA 243.
HIBBARD, C. W. & RIGGS, E. S. 479 ; MANGUIN, E. 678 ; RUSCONI, C. 940.

Pleistocene.—ALTENA, C. O. VAN 18 ; COUTA, C. DE P. 237 ; MANGUIN, E. 678.

Quaternary.—BRUNNER, G. 160 ; FURON, R. 367 ; GIFFORD, E. W. 392.

III.—SYSTEMATIC INDEX

THE ORDERS, AND FAMILIES AND GENERA WITHIN THEM, ARE ALPHABETICALLY ARRANGED.

AMPHIBIA

General : Fossil.—New representatives of Seymouriamorpha in the lower Permian, N. Kazakhstan, Russia, EFREMOV 298.—Fossil of Switzerland, HESCHELER, K. & KUHN, E. 477.—Phylogeny, HUENE, F. F. VON 510.—Vertebrae, HUENE, F. F. VON 512.—Fossil Amphibia divided into Urodelsomorpha and Batrachomorpha, HUENE, F. F. VON 514.—List of fossil amphibia in Lower Carboniferous, PAUL, H. 826.—Images du Monde disparus, PIVETEAU, J. 863.

General : Recent.—On the life habits, exotic species, development, etc., figs., col. plate, BERTIN 88.—New County records and distribution summary in Oklahoma, BRAGG & HUDSON 136.—On some type localities restricted by Smith & Taylor, DUNN & STUART 284.—Evolution survey, GREGORY, W. K. 412.—Olfactory system of tailed amphibia, figs., HILTON 486.—Of Mozambique, MANAÇAS 677.—Of the Cameroons, MONARD 730.—Larvae recognition of N.W. Germany ; mouth-parts figured, RÜHMEKORF 939.—Of Sagan-Omo, Abyssinia, SCORTECCI 986.—Amphibians of Western N. America, keys, habits, behaviour, coloured plates, keys to larval forms and egg, STEBBINS 1059.—Temperature tolerances and distribution in toads, STUART 1085.—Amphibia of Thailand, SUVATTI 1087.

APODA

COECILIIDAE

Geotrypetes petersii, from Cameroons, MONARD 730.

Herpele squalostoma, from Cameroons, MONARD 730.

Ichthyophis glutinosus ; *monochrous*, of Thailand, SUVATTI 1087.

Siphonops paulensis, from Brazil, SCHMIDT & INGER 973.

Typhlonectes compressicauda, an accessory tracheal lung, histology, GRINKRAUT 416.—Fig., of Venezuela, RÖHL 920.

CAUDATA

On teeth, figs., HILTON 485.

AMBLYSTOMIDAE

Ambystoma, X-ray and effect on teeth, BRUNST, SHERMETIEVA-BRUNST & FIGGE 163.—Experimental observations on the differentiation of the otic vesicle, DETWILER 265.—Medulla reversal, DETWILER 266.—Differentiation of labyrinth, DETWILER & VAN DYKE 267.—Influence of salt loss on osmotic regulation, JØRGENSEN 536.—On the ontogeny of the telencephalon, figs., KÄLLÉN 544.—On keeping and feeding in captivity, MONK 731.—In vitro study on cranial neural crest, WILDE 1196.—Role of water on growth in metamorphosis, WURMBACH 1222.

Ambystoma annulatum, distribution in Oklahoma, BRAGG & HUDSON 136.—Range extended into Oklahoma (Adair Cnty.), and known localities given, FIRSCHEIN & MILLER 334.

Ambystoma gracile, figs., of Western N. America, STEBBINS 1059.—*A. gracile*, present on Lanz Id., Scott Ids., British Columbia, CARL, GUIGUET & HARDY 186.

Ambystoma jeffersonianum, from Emmett Co., Michigan, MALDONADO-KOERDELL 673.—Wisconsin records, SUZUKI 1088.—From Sault Ste. Marie region, Ontario, WARBURTON 1178.

Ambystoma macrodactylum, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—Figs., of Western N. America, STEBBINS 1059.—On skin secretions and defence value, BARACH 64.—Distribution in Okla-

homa, BRAGG & HUDSON 136.—Possible presence in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Mechanics of blastema formation and regeneration of limbs, BUTLER 174.—Note on migration to breeding pond, FINNERAN 329.—Pressure and tadpole narcosis, JOHNSON & FLAGLER 532.—Metabolism factor and radio-sensitivity, LA HAM & O'BRIEN 591.—MALDONADO-KOERDELL 673.—Differentiation of trunk mesoderm, MUCHMORE 737.—Wisconsin records, SUZUKI 1088.

Ambystoma mexicanum, on function of the paraphysis cerebri, ARIENS 42.—Temperature effect on embryos, CATE, KOOFJ & ZUIDWEG 194.—Observations on nuclear volume and chromosome numbers, GIACOMELLI 390.—Biochemical gradients in the gastrula, GREGG & LØVTRUP 410.—Alkaline phosphatase activity during development, KRUGELIS 583.—On hatching in aquarium, LANG, J. 598.—Analysis of pigment suppression, LEHMAN 626.—*A. mexicanum* × *A. tigrinum*, hybridization, GEYER & FREYTAG 388.

Ambystoma opacum, distribution in Oklahoma, BRAGG & HUDSON 136.—Mechanics of blastema formation and regeneration of limbs, BUTLER 174.—Action of sex-hormones, GALLIEN 377.—Restitution of spinal cord, HOLTZER 499.—Phosphatase in limb regeneration, KARCZMAR & BERG 549.—In terrarium, LANG, H. 596.—From Raleigh, N. Carolina, MALDONADO-KOERDELL 673.—Should be omitted from Wisconsin records, SUZUKI 1088.—Histology of beryllium inhibition, THORNTON 1110.—First record in Michigan, Camp Blackhawk, nr. Buchana, Berrien Cnty., WALLEY & SMITH, P. W. 1176.—From Virginia, WERLER & McCALLION 1189.

Ambystoma persimile, of Thailand, SUVATTI 1087.

Ambystoma punctatum, appearance and development of cholinesterase in mid-brain, BOELL & SHEN 105.—Effects of antithyroid compounds, COPENHAVER & DETWILER 232.—Effect of low temperature on development rate, CORTELYN 233.—On mitotic anomalies in tail epithelium, COSTELLO, HENLEY & KENT 234.—Action of sex hormones, GALLIEN 377.—Effect of maleic hydra-

zide on embryonic and larval growth, GREULACH, MCKENZIE & STACY 413.—Heteroploidy in a "natural population", HENLEY & COSTELLO 464.—Chromatographic studies of amino acids in eggs and embryos, HOLTRETER KOSZALKA & MILLER 498.—Restitution of spinal cord, HOLTZER 499.—Phosphatase in limb regeneration, KARCZMAR & BERG 549.—Temporary paralysis by electric shock, KEMP & GAMERO-REYES 560.—Differentiation of larvae after extirpation of heart, KEMP & QUINN 561.—Analysis of pigment suppression, LEHMAN 626.—Lens competence, LIECKE 638.—Experiments between pigmentless and pigmented eggs, PIATT 854.—Return of vision in transplanted eyes, STONE 1080.—Histology of beryllium inhibition, THORNTON 1110.—Regression of injured denervated limbs, THORNTON & KRAEMER 1112.

Ambystoma rosaceum nigrum, **subsp. nov.**, from El Salto, Durango, p. 466 fig.; *A. r. sonoraensis*, **subsp. nov.**, from Sonora, 32 miles S. of Arizona border, p. 468, Proc. U.S. nat. Mus. 101 3284 1951, SHANNON 998.

Ambystoma talpoidum, distribution in Oklahoma, BRAGG & HUDSON 136.

Ambystoma texanum, distribution in Oklahoma, BRAGG & HUDSON 136.—In Kansas, BREUKELMAN & CLARKE 144.—Photo, in terrarium, LANG, H. 596.—From Franklin Co., Kansas, MALDONADO-KOERDELL 673.

Ambystoma tigrinum, effects of antithyroid compounds, COPENHAVER & DETWILER 232.—Comparative anatomy of pituitary and nerves, GREEN 409.—On teeth, HILTON 485.—Restitution of spinal cord, HOLTZER 499.—Analysis of pigment suppression, LEHMAN 626.—Development, hormone action, experimental, SLUCZEWSKI & ROTH 1022.—Col. pl., and figs., of Western N. America, STEBBINS 1059.—*A. [tigrinum?]* larvae from S. Arizona and Sonora, REED 897.—*A. tigrinum* × *A. mexicanum*, hybridization, GEYER & FREYTAG 388.—*A. tigrinum tigrinum* distribution in Oklahoma, BRAGG & HUDSON 136.—From Greene Cnty., Ohio, DUELLMAN 277.—Wisconsin records, SUZUKI 1088.—*A. tigrinum marvortium*, distribution in Oklahoma, BRAGG & HUDSON 136.—In Kansas, BREUKEL-

MAN & CLARKE 144.—Found at Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Age at maturity of neotenic specimen, figs, GLASS 396.—From Cloud Co., Kansas, MALDONADO-KOERDELL 673.—*A. tigrinum nebulosum*, of Elk Mtns., Colorado, BLAIR 97.

Dicamptodon, on teeth, HILTON 485.—*D. ensatus*, on voice, larynx described, MASLIN 691.—From Western N. America, ecology, etc. figs, adult, larvae and eggs, STEBBINS 1059.

Rhyacotriton, on teeth, HILTON 485.—*R. olympicus*, from Western N. America col. pl. text-figs, ecology, etc., adult, larvae and eggs, STEBBINS 1059.—*R. olympicus* fig, subspecific differentiation ; *R. o. variegatus* **subsp. nov.**, p. 471 fig. ; reproduction, larvae, habitat, Univ. Calif. Publ. Zool. 50 1951, STEBBINS & LOWE 1060.

Siredon mexicanum, observations on water conditions, BANDT & FREYTAG 62.—Embryonic pituitary activity in relation to development of genetic pigment pattern, DALTON 248.—On skeleton ossification process, figs., KÄLIN & KELLER 543.—On nomenclature, WAHLERT 1173.—[*Siredon mexicanum*] on gene action, DALTON & HALL 249.

AMPHIUMIDAE

Olfactory system, HILTON 486.

Amphiuma, on teeth, HILTON 485.—*A. means means*, notes on food, HAMILTON, W. J. 440.—From Virginia, WERLER & MCCALLION 1189.—*A. m. tridactylum*, distribution in Oklahoma, BRAGG & HUDSON 136.—From New Orleans, Louisiana, MALDONADO-KOERDELL 673.—*A. tridactylum*, influence of thyroxine, epinaphrine and X-ray on metamorphosis, neoteny and aortic arches, BAKER, C. L. & STOUDEMAYER 58.—Food habits, CHANEY 203. Additional record from Texas, CURTIS 244.

CRYPTOBRANCHIDAE

Cryptobranchus, on teeth, HILTON 485.—On distribution ; *C. bishopi*, notes on range, FIRSCHEIN 333.—*C. allegheniensis*, on development, STEPHENSON 1070.

Megalobatrachus sp.? caught in Sacramento R., California, MYERS 749.—*M. japonicus*, on the mesencephalic trigeminal root cells in brain, KATO & KAGAMI 553.—On the tractus testis cerebellaris in the brain, NOGUCHI 772.

DESMOGNATHIDAE see PLETHODONTIDAE

HYNOBIIDAE

Hynobius retardatus, osmotic homeostasis in development, KUSA 587.—*H. tokyoensis*, on eggs and development, NAGATSUKA 753.

†LEPOSPONDYLI see under STEGOCEPHALI

PLETHODONTIDAE

On a nasal gland, figs., HILTON 484.—Olfactory system, HILTON 486.

Aneides, key to Western N. America species, adult, larvae and eggs ; ecology, etc., *ferreus*, fig. ; *flavipunctatus*, fig. ; *hardii*, fig. ; *lugubris*, fig., STEBBINS 1059.—*A. lugubris*, on teeth, HILTON 485.—*A. lugubris lugubris*, of Santa Ana Mts., California, PEQUEGNAT 837.

Batrachoseps, key to species of Western N. America ; habits, etc., adult, larvae and eggs ; *attenuatus*, figs. ; *pacificus*, figs. ; *wrightii*, figs. ; STEBBINS 1059.—*B. attenuatus* and *B. pacificus*, sympatric populations in S. California, LOWE & ZWEIFEL 657.—*B. attenuatus major*, of Santa Ana Mts., California, PEQUEGNAT 837.

Bolitoglossa leprosa, on teeth, HILTON 485.—*B. nigrofilavescens* from Chiapas, name not used by Taylor, correction of report by Stuart 1943, TAYLOR, E. H. 1101.—*B. occidentalis*, range extended across state to Pichucalco, Chiapas, SHANNON 998.—*B. platydactyla*, range extended in Veracruz, 100 miles N., REESE, R. W. & FIRSCHEIN 900.—*B. variegatus*, of Venezuela, RÖHL 920.—*B. veracrucis*, **sp. nov.**, 35 km. S.E. of Jesús Carranza (Santa Lucretia) 350 ft., Veracruz, Mexico, Univ. Kansas sci. Bull. 34 1 1951 p. 189 fig., TAYLOR, E. H. 1101.

Desmognathus fuscus, on development, STEPHENSON 1070.—*D. f. fuscus*, from

Lebanon Cnty., Penn., HEILMAN 460.—From Virginia, WERLER & McCALLION 1189.—*D. f. auriculatus*, life history, CHANEY 202.—On eggs, larvae, in Florida, fig., GOIN 402.—From Covington, Louisiana, MALDONADO-KOERDELL 673.—*D. f. brimleyorum*, distribution in Oklahoma, BRAGG & HUDSON 136.—*D. monticola monticola*, figure of ♂, HOFFMAN 493.—*D. m. jeffersoni*, **subsp. nov.**, from Saddle Hollow, Jarman's Mt., W. of Crozet, Albemarle Cnty., Virginia, 1600 ft., J. Elisha Mitchell Sci. Soc. 67 2 1951 p. 250 figs., HOFFMAN R. L., 493.

Ensatina eschscholtzii, notes and photos., FREYTAG 361.—Col. pls. of subspecies and intergrades, of Western N. America, ecology, etc., adult, larvae and eggs, STEBBINS 1059.—*E. e. eschscholtzii*, of Santa Ana Mts., California, PEQUEGNAT 837.

Eurycea bislineata, on teeth, HILTON 485.—*E. b. bislineatus* from Virginia, WERLER & McCALLION 1189.—*E. b. bislineata*, *E. longicauda longicauda*, from Lebanon Cnty., Penn., HEILMAN 460.—Both should be omitted from Wisconsin records, SUZUKI 1088.—*E. b. bislineata* × *cirrigera*, protective behaviour and photic orientation in aquatic adult and larvae, WOOD 1213.—*E. b. rivicola*, *E. l. longicauda*, from Greene Cnty., Ohio, DUELLMAN 277.—*E. b. rivicola*, variation of the number of eggs deposited, WOOD & DUELLMAN 1214.—*E. griseogaster*; *E. longicauda melanophylla*; *E. multiplicata*; *E. tyrenensis*, distribution in Oklahoma, BRAGG & HUDSON 136.—*E. latitans*, from Edwards Plateau, Texas, CURTIS 245.—New locality record, Turtle Creek, Kerr Cnty., Texas, MILSTEAD 725.—*E. longicauda gutto-lineata*, from Bogalusa, Louisiana, MALDONADO-KOERDELL 673; Note on recently transformed larvae, SINCLAIR 1013.—*E. lucifuga*, pattern neoteny, figs., REESE, R. W. & SMITH, H. M. 901.—Biological notes, SINCLAIR 1016.—*E. multiplicata*, on specimens collected at the restricted type locality, nr. Fort Towson, Choctaw Cnty., Oklahoma (Dundee 1950), LOOMIS & WEBB 649.—*E. nana*, from Edwards Plateau, Texas, CURTIS 245.—*E. neotenes*, from Edwards Plateau, Texas, CURTIS 245.—*E. pterophila*, from Edwards Plateau, Texas, CURTIS 245.

Gyrinophilus danielsi, on identity, *G. d. polystictus*, **subsp. nov.**, from Mt. Mitchell, Yancey Cnty., N. Carolina, Nat. Hist. Misc., Chicago No. 63 1950 p. 2 figs., REESE, R. W. 899.—*G. p. porphyryriticus*, from Lebanon Cnty., Penn., HEILMAN 460.

Hemidactylium scutatum, from Lebanon Cnty., Penn., HEILMAN 460.—Wisconsin records, SUZUKI 1088.

Hydromantes platycephalus, fig.; habits, etc., from Western N. America, STEBBINS 1059.

Magnadigitia morio, rostrata, from Guatemalan plateau, STUART 1084.

Manculus quadridigitatus, on eggs, and larva, and larval fin, in Florida, fig., GOIN 402.—*M. q. uvidus*, from Texas, REESE, R. W. & FIRSCHEIN 900.

Oedipina elongata, from Chiapas, first record for Mexico, SMITH, P. W. & H. M. 1046.

Oedipus paraensis, from Brazil, SCHMIDT & INGER 973.

Plethodon, key to species of Western N. America, adult, larvae and eggs; *P. dunni*, fig., *elonagtus*, figs., *neomexicanus*, col. pl., *vandykei*, fig., *vehiculum*, fig.; STEBBINS 1059.—*P. caddoensis*, **sp. nov.**, Polk Creek Mt., Caddo Mts., S.W. Montgomery Cnty., Arkansas, allied to *P. ouachitae*, Bull. Chicago Acad. Sci. 9 8 1951 p. 148, POPE, C. H. & S. H. 868.—*P. cinereus*, pituitary, circulation and nerves, GREEN 409.—From Cheboygan Co., Michigan, MALDONADO-KOERDELL 673.—Stomach contents, beetles, PARK & EDGREN 822.—From Sault Ste. Marie region, Ontario, WARBURTON 1178.—*P. c. cinereus*, from Lebanon Cnty., Penn., HEILMAN 460.—Comparative environmental study with *P. g. glutinosus*, HICKMAN & VERNBERG 480.—Wisconsin records, SUZUKI 1088.—From Virginia, WERLER & McCALLION 1189.—*P. c. anausticlavius*; *P. c. serratus*; distribution in Oklahoma, BRAGG & HUDSON 136.—*P. dixi*, observations on aggregation in Dixie Caverns, nr. Salem, Roanoke Cnty., Virginia, FOWLER 347.—*P. glutinosus*, on vertical distribution in S. Appalachians, HAIRSTON 433.—On teeth, HILTON 485.—From Covington, Louisiana, MALDONADO-KOERDELL 673.—Should be omitted from Wisconsin records,

SUZUKI 1088.—Distribution in Oklahoma, BRAGG & HUDSON 136.—From Lebanon Cnty., Penn., HEILMAN 460.—Comparative environmental study with *P. c. cinereus*, HICKMAN & VERNBERG 480.—*P. g. glutinosus*, locality record in Maryland, MARSIGLIA 687.—From Virginia, WERLER & McCALLION 1189.—*P. jordani*, on vertical distribution in S. Appalachians, HAIRSTON 433.—*P. kentucki*, **sp. nov.**, type locality Pine Mt., Harlan Cnty., Kentucky, 2000 ft., p. 105, *P. glutinosus chlorobryonis*, **subsp. nov.**, type locality 13 mls. north of New Bern., Craven Cnty., N. Carolina, p. 108, photo in life; Herpetologica, San Diego 7 3 1951, MITTLEMAN, M. B. 729.—*P. ouachitae*, distribution in Oklahoma, BRAGG & HUDSON 136.—Field study, size, growth, variation, POPE, C. H. & S. H. 868.—*P. richomondi*, from Greene Cnty., Ohio, DUELLMAN 277.

Plethopsis, on teeth, HILTON 485.

Pseudoeurycea bellii, anatomical study and comparison with other species, figs., BAIRD 55.—*P. gigantea*, from Veracruz, REESE, R. W. & FIRSCHEIN 900.—*P. rex*, from Guatemalan Plateau, STUART 1084.

Pseudotriton ruber ruber, should be omitted from Wisconsin records, SUZUKI 1088.—From Lebanon Cnty., Penn., HEILMAN 460.

Stereochilus marginatus from Virginia, WERLER & McCALLION 1189.

Typhlotriton nereus; *T. spelaeus*, distribution in Oklahoma, BRAGG & HUDSON 136.—*T. spelaeus*, on adults from Oklahoma, BLAIR 96.

PROTEIDAE

Necturus, concentration of potassium in glomerular fluid, BOTT 116.—Vertebral and pelvic variations, HARRIS 451.—On teeth, HILTON 485.—Solubilities of fibrinogens in plasma-ethanol mixture, MORRISON, SCUDDER & BLATT 735.—*N. maculosus*, influence of thyroxine, epinephrine and X-rays on metamorphosis, neoteny and aortic arches, BAKER, C. L. & STOUDEMAYER 58.—Pituitary, circulation and nerves, GREEN 409.—Parasitized by mussels, HOWARD 508.—From Sault Ste. Marie region, Ontario, WARBURTON 1178.—*N. m. maculosus*, distribution in Okla-

homa, BRAGG & HUDSON 136.—In Kansas, BREUKELMAN & CLARKE 144.—Found at Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From Ontario, EVANS, H. E. & ROECKER 310.—From Franklin Co., Kansas, MALDONADO-KOERDELL 673.—and *N. m. stictus*, Wisconsin records, SUZUKI 1088.

Proteus, on teeth, HILTON 485.—Olfactory system, HILTON 486.—*P. anguinus*, descriptive history, JEANNEL 529.—Evolution of auditory perilymphatic system fig., TUMARKIN 1134.

Typhlomolge rathbuni, distribution and physiographic influences of the Edwards Plateau, Texas, CURTIS 245.

SALAMANDRIDAE

Olfactory system, HILTON 486.—On voices, MYERS, 747.

Chioglossa lusitanica, on chromosomes, MAGALHÃES MATEUS 668.—Outside structure of eye, MENNER 703.

Cynops chinensis, habits and life-history, figs., ROMER, J. D. 923.

Diemictylus kallerti, from Mexico, Puebla, REESE, R. W. & FIRSCHEIN 900.—*D. viridescens louisianensis*, distribution in Oklahoma, BRAGG & HUDSON 136.—Records from N.E. Texas, BROWN 153a.—Occurrence in Iowa, MILLER, L. S. 719.

Euproctus, on teeth, HILTON 485.—Cloaca structure, WAHLERT 1174.

Mertensiella caucasica, of Turkey, on variation, behaviour in captivity, col. plate, KOSSWIG 576.—External structure of eye, MENNER 703.

Molge, see under *Triturus*.

Pleurodeles, cloaca structure, WAHLERT 1174.—*P. waltlii*, experimental study on morphogenesis, GALLERA 373.—Sex ratios, GALLIEN 375.—Effect of testosterone on gonads, GALLIEN 376.—Action of sex-hormones, GALLIEN 377.—Nuclear acid in eye development, RICKENBACHER 915.

Pleurodellides, on teeth, HILTON 485.

Salamandra, cloaca structure, WAHLERT 1174.—*S. atra*, outside structure of eye, MENNER 703.—*S. atra* ♂ + *Triton palmatus* ♀, BALTZER & SCHÖNMANN 61.—*S. maculosa*, *S. atra*, on sensibility to colour and light,

BIRUKOW 93.—*S. maculosa*, on gland poisons, GESSNER 387.—On teeth, HILTON 485.—Outside structure of eye, MENNER 703.—Microscope observation on testicle, PUJULA 880.—Structural modifications of nucleus and cytoplasm of skin, SACERDOTE & ARGAN-CHIESA 944.—*S. maculosa* or *atra*, on poison secretion compound, SCHÖPF & OTHERS 975.—*S. salamandra*, study of the enterio plexuses, GUNN 423.—Notes on metamorphosis, fig., LANG, J. 597.—In Reims area, France, MENU 704.—From Rakovnik, nr. Prague, OLIVA 791.—Role of water on growth in metamorphosis, WURMBACH 1222.—*S. s. salamandra*, *S. s. quadrivirgata*, on voice, MENGES 702.—*S. s. salamandra*, *S. s. quadrivirgata* = *S. taeniata*, on larva of N.W. Germany, RÜHMEKORF 939.—*S. s. quadrivirgata*, on abnormal larva, photo., SCHMELCHER & HELLMICH 967.—*S. s. quadrivirgata-taeniata*, appears to be two races in Niedersachsen, Germany, TENIUS 1107.—*S. s. taeniata*, experiments on pituitary MÜHLPFORDT 738.—From Hanover, TENIUS 1106.

Salamandrella, on teeth, HILTON 485.

Triton, see under *Triturus*.

Triturus, on otic system, ANDRES 31.—On teeth of 5 species, HILTON 485.—Distribution in Belgium at high altitudes, JACQUEMART 526.—On biology of pairing, PRECHTL 875.—In Norway, SOOT-RYEN 1050.—Key to Western N. American species, adults, larvae and eggs, figs., STEBBINS 1059.—Regeneration in central nervous system, STEFANELLI 1062.—Cloaca structure, WAHLERT 1174.

Triturus alpestris, action of chloracethophenone on eggs, BEATTY 81.—On sex-hormone, CAGIANUT 176.—Antigens in developing embryo, CLAYTON 219.—Effect of ultraviolet on ear, DÜRKEN 286.—Experimental study on morphogenesis, GALLERA 373.—Experiment on chorda, HADORN 429.—Distribution at high altitudes in Belgium, JACQUEMART 526.—Amputation and narcotic effect of isotonic solution (Holtfreter), KUPKA 586.—In Reims area, France, MENU 704.—Chromosome problem, MORGENTHAUER 733.—From Rakovnik, nr. Prague, OLIVA 791.—A spontaneous carcinoma, RICKENBACHER 914.—Nuclear acid in

eye development, RICKENBACHER 915.—Effect of NaCl on larva, RÖHRS 921.—On purines present in oocytes, STEINERT 1066.—Effect of "athylurethan" on development, STROINK 1083.—Of Hanover, TENIUS 1106.—Action of ♂♀ sex-hormones on non-sexual cells, TONDURY & CAGIANUT 1131.—Passage of phosphorus-32 into gastrula ectoderm, WADDINGTON 1171.—Implants on skin, WÄCHTER 1172.—*T. a. alpestris*, on sensibility to colour and light, BIRUKOW 93.—In the Lüneburger heath, Germany, BOETTGER, C. R. 107.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.—*T. a. alpestris*, *T. a. apuanus*, on colour, figs., FREYTAG 362.—*T. a. apuanus*, experiments in pregnancy tests, LANZA 602.—*T. a. montenegrinus*, **subsp. nov.**, from Lake Bukumirsko, E. Yugoslavia, Brit. J. Herpetol. 1 5 1951 p. 93 figs., RADOVANOVIC, M. 884.

Triturus boscai, specimen from Toledo with anomalous coloration, FREYTAG 360.

Triturus cristatus, presence of enteramine in the skin, ERSPAMER & VIALLI 308.—Study of meiosis in interracial hybrids, CALLAN & SPURWAY 178.—Regeneration experiments, KIORTSIS 562.—In Reims area, France, MENU 704.—Sex-differentiation, experimental PADOA 816.—Distribution on Bookham Common, Surrey, PANCHEN 818.—Gonads and kidney of larvae treated by testosterone, PISANO 860.—Use in pregnancy tests, PISANO & CHICCO 861.—Of Finland, SUOMALAINEN & VOPIO 1086.—Of Hanover, TENIUS 1106.—Sex dimorphism of ischiopubis, VALLÉE 1151.—Distribution in Belgium at high altitudes, JACQUEMART 526.—Observation on populations in Charmouth, Dorset, LANG, W. D. 599.—Photo in life., habits, etc., LEUTSCHER 630.—Examination of cause of neoteny, LODEWIJKS 646.—Eye grafting experiments; On connection between retina and crystallin, NIKITENKO 770, 771.—Effect of "athylurethan" on development, STROINK 1083.—The effect of vegetation on breeding, WIMPENNY 1201.

Triturus cristatus cristatus, on sensibility to colour and light, BIRUKOW 93.—Records in Denmark, PFAFF 852.—

On larva of N.W. Germany, RÜHMEKORF 939.—Figs. col. pl., of Britain, ecology, SMITH, M. A. 1038.

Triturus cristatus carnifex, spermatogenesis, BATTAGLIA & GUALA 74.—Experiments in pregnancy tests, LANZA 602.—Action of adrenaline, LANZA 603. Electron microscope study of chromosomes, TOMLIN & CALLAN 1130.

Triturus cristatus danubialis, pituitary and thyroid glands connection, HERRE 473.

Triturus cristatus ♂ × *T. vulgaris* ♀, hybrids, PISANO 858.—*T. cristatus* ♂ × *T. vulgaris* ♀, on larval parabiosis of hybrids of F.-generation, figs., PISANO 859.

Triturus granulosus, of Western N. America, ecology, STEBBINS 1059.

Triturus helveticus, on sensibility to colour and light, BIRUKOW 93.—Pituitary and thyroid gland connections, HERRE 473.—Distribution in Belgium at high altitudes, JACQUEMART 526.—Observations on populations at Charnmouth, Dorset, LANG, W. D. 599.—Photo in life, habits, LEUTSCHER 630.—In Reims area, France, MENU 704.—Distribution on Bookham Common, Surrey, PANCHEN 818.—Effect of NaCl on larva, RÖHRS 921.—On eggs, SENTEN 992.—Figs., col. pls., of Britain, ecology, SMITH, M. A. 1038.—Of Hanover, TENIUS 1106.

Triturus helveticus helveticus, distribution records in Dorset, DALTON 250.—On larvae of N.W. Germany, RÜHMEKORF 939.—*T. helveticus* and *T. vulgaris*, on comparative relationship, figs., WOLTERSTORFF & FREYTAG 1212.

Triturus marmoratus, pituitary and thyroid glands connection, HERRE 473.—Sex dimorphism of ischiopubis, VALLÉE 1151.

Triturus palmatus, action of chloracetophenone on eggs, BEATTY 81.—Mitosis and colchicine; Effect of colchicin on early development, figs., GROPP 417; 418.—On chemical nature of implants, KUUSI 588.—*T. palmatus* = *helveticus*, reported breeding in brackish water, Scotland, SCHMIDT 969.—*T. palmatus* ♀ × *Salamandra atra* ♂, BALTZER & SCHÖNMANN 61.

Triturus palustris, study of the enteric plexuses, GUNN 423.—In Norway,

STØP-BOWITZ 1082.—*T. p. palustris*, distribution records in Dorset, DALTON 250.

Triturus pyrrhogaster, transplants of intermediate mesoderm, ASAYAMA 45.—On chromosomes, GUYENOT, DANON, KELLENBERGER & WEIGLÉ 424.—Explantation of organizer, HAMA 436.—Induction as it is affected by paired head and trunk organizers; Comparative results of transplants and organizers, HAMA 437, 438.—Double-monsters, and on origin of development, figs., ICHIKAWA 522.—Induction of limbs, and reference to origin of their cells, ICHIKAWA & AMANO 523.—Reproductive ability of triploids, and diploids, KAWAMURA 554.—On lens-induction, figs., MIKAMI 717.—On lack of lens-regeneration; Induction of notochord by frog ventral skin, OKADA 786, 787.—Occurrence of tetraploidy by cold treatment, figs., SANADA 950.—Phosphorus metabolism in ovarian eggs, VILLEE & DURYEE 1163.

Triturus rivularis, analysis of pigment suppression, LEHMAN 626.—Of Western N. America, ecology, figs., STEBBINS 1059.

†*Triturus schnaitheimi*, **sp. nov.** from Miocene of Germany; Neues Jb. Geol. B8 1950 p. 247 figs., HERRE, W. & LUNAU, H. 475.

Triturus sierrae, northward range extension to Squaw Creek, Shasta County, California, and notes on breeding season, GORMAN 407.

Triturus taeniatus, experimental production of supernumerary forelimbs, FAUTREZ 323.—On chemical nature of implants, KUUSI 588.

Triturus torosus, oxidation-reduction indicator patterns in regeneration of the foreleg and tail of larvae, figs., CHILD 209.—Heterotopic transplantation of neural crest and melanogenesis, DE LANNEY 259.—Transplanted pituitary experiments, EAKIN & HARRIS 291.—Pituitary, circulation and nerves, GREEN 409.—Restitution of spinal cord, HOLTZER 499.—Analysis of pigment suppression, LEHMAN 626.—Of Santa Ana Mts., California, PEQUEGNAT 837.—Of Western N. America, ecology, etc., figs., STEBBINS 1059.

Triturus viridescens, the oocyte chromosomes, GALL 371.—Pituitary circula-

tion and nerves, GREEN 409.—Hypophysectomy and limb regeneration, HALL & SCHOTTÉ 434.—Stimulation of forelimb regeneration by isolating sensory nerve, SIDMAN & SINGER 1008.—Vision of transplanted eyes, STONE 1080.—From Sault Ste. Marie region, Ontario, WARBURTON 1178.—*T. v. viridescens* from Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty., Pennsylvania, HEILMAN 460.—From Michigan, MALDONADO-KOERDELL 673.—Lens regeneration from cells of iris, STONE 1081.—From Virginia, WERLER & McCALLION 1189.—On maintenance of denervated taste organs in adults, WRIGHT, M. R. 1220.—*T. v. louisianensis*, from nr. Tulsa, Oklahoma is a first record, BLAIR 96.—On early egg hatching, January, in Florida, fig., GOIN 402.—Wisconsin locality records, SUZUKI 1088.

Triturus vittatus, on breeding hold, OESER 782.—*T. v. ophryticus*, of Turkey, observations on adults and larvae, col. plate, KOSSWIG 576.

Triturus vulgaris, effect of chloracetophenone on eggs, BEATTY 81.—Study of the enteric plexuses, GUNN 423.—Forebrain development, figs., HOMEYER 500.—Distribution in Belgium at high altitudes, JACQUEMART 526.—Absent from Charmouth, Dorset, LANG, W. D. 599.—Photo in life, habits, LEUTSCHER 630.—In Reims area, France, MENU 704.—From Rakovnik, nr. Prague, OLIVA 791.—Distribution on Bookham Common, Surrey, PANCHEN 818.—In Norway, STØP-BOWITZ 1082.—Of Finland, SUOMALAINEN & VOPIO 1036.—Of Hanover, TENIUS 1106.—Biochemistry, on liver, TOIVONEN 1127.—The effect of vegetation on breeding, WIMPENNY 1201.

Triturus vulgaris vulgaris, on sensibility to colour and light, BRUKOW 93.—Distribution records in Dorset, DALTON 250.—Records in Denmark, PRAFF 852.—On larvae of N.W. Germany, RÜHMEKORF 939.—Figs., col. pl. of Britain, ecology, SMITH, M. A. 1038.—[*T. vulgaris*], reported breeding in brackish water, Lancashire, SCHMIDT 969.—*T. vulgaris* and *T. helveticus*, on comparative relationship, figs., WOLTERSTORFF & FREYTAG 1212.

Tylototriton, cloaca structure, WAHLERT 1174.

SIRENIDAE

Olfactory system, HILTON 486.

Siren, on teeth, HILTON 485.—*Siren* [*i. intermedia*], collected nr. Jackfork Creek, nr. Clayton, Pushmataha Cnty., Oklahoma, extends range 65 miles N.W., BLAIR 96.—*S. intermedia nettingi*, distribution in Oklahoma, BRAGG & HUDSON 136.—*S. lacertina*, influence of thyroxine, epinephrine and X-rays on metamorphosis, neoteny, and aortic arches, BAKER, C. L. & STOUDEMAYER 58.

Pseudobranchius striatus lustricolus, **subsp. nov.**, Otter Creek, Levy Cnty., Florida, Ross Allen Rept. Inst. Pub. 1 4 1951 p. 39 fig., NEILL, W. T. 761.

†STEGOCEPHALI

Ornamental neural spines of armoured amphibia, LUNDELIUS, E. 659.—Eryopid amphibian from Knox County, Texas, OLSON, E. C. 800.—Amphibian fragment from Trias of Congo, SLUYS, M. 1023.—Growth studies in *Diplocaulus*, *Trimerorhachis* and *Lysorophus*, OLSON, E. C. & MILLER, R. L. 803.—Relative size of limb bones of *Buettneria perfecta*, OLSEN, R. 795.—*Cacops*, *Eryops*, *Seymouria*, *Tremetops*, *Diplocaulus*, *Magnicomis* and *D. brevirostris*, Permian chronofauna of Texas, OLSON, E. C. 796.

Diplocaulus, study of growth and variation: extensive study of skull. *D. brevirostris*, **sp. nov.**, descr. and figd. Field Mus. Publ. Chicago, Geol. 11 2 1951 p. 112, OLSON, E. C. 802. *Diplocaulus* sp. and *Lysorophus* cf. *tricarinatus* from Permian of Texas, OLSON, E. C. 801.

†*Gnorhimosuchus satpaei*, **gen. nov. spec. nov.**, Tersakkan river, Bokhu south of Atbasar, Northern Kazakhstan, lower Permian. C.R. Acad. Sci. USSR N.S. 1951 77 4 p. 722 figs., EFREMOV 298.

Melanerpeton longicaudatum Augusta redescr. and discussed, SPINAR, Z. 1055.—*M. pusillum*, Fritsch, description, observations, figs., SPINAR 1056.—*M. satcheti*, **sp. nov.** and other amphibians from Permian of Bourbon-L'Archambault, France, Ann. Paleont. Paris 35 1949 p. 138, SAINT-SEINE, P. de 945.—Saint-Seine. Note on, and skull figd., GIDON, M. 391.

Prionosuchus plummeri **gen. & sp. nov.**, Archejosaur from lower Permian of Brazil, Bol. Serv-geol. min. Brasil 124 1948 p. 10 pl., PRICE, L. I. 877.

Trimerorhachis cf. *insignis*; *Eryops*? and *Cacops* cf. *broilii* in Permian of Texas, OLSON, E. C. 801.

SALIENTIA

ASCAPHIDAE

Ascapus, on development, STEPHENSON 1070.—*A. truei*, fig., of Western N. America, habits, etc., key to subspecies, adult, larvae and eggs, STEBBINS 1059.—Development of the chondrocranium, with special reference to the relations of the palatoquadrate to the neurocranium, figs., VAN EEDEN 1152.—*A. truei montanus*, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.

Leiopelma, on anatomy of head, figs., STEPHENSON, E. M. 1069.—On development, STEPHENSON 1070.—*L. archeyi*, on the development of the chondrocranium and visceral arches, figs., STEPHENSON, N. G. 1071.—*L. hochstetteri*, remarks on blood-vascular system, SZARSKI 1091.

BRACHYCEPHALIDAE

Atelopus cruciger, fig., of Venezuela, RÖHL 920.

Dendrobates typographicus, photo, notes on specimen in terrarium, OERTTER 780.—*D. trivittatus*; *braccatus*, from Brazil, SCHMIDT & INGER 973.

Hyloxalus collaris, fig., of Venezuela, RÖHL 920.

Rhinoderma darwini, on direct development, ORTON 812.

BREVICIPITIDAE

see under MICROHYLIDAE

BUFONIDAE

Bufo, key to Western N. American species, adult, larval forms and eggs, STEBBINS 1059.—On use of venom in Alto Xingu, Brazil, CARVALHO 193.—*Bufo* sp., effect of maleic hydrazide on embryonic and larval growth, GREULACH, MCKENZIE & STACY 413.—Species of Thailand, SUVATTI 1087.

Bufo aqua [*marinus*], presence of norepinephrine in parotid secretion, LASAGNA 608.

Bufo alvarius, first record from Baja California, Mexico, BRATTSTROM 139.—Col. pl., on adult, larval form and eggs, STEBBINS 1059.

Bufo americanus, on Drummond Id., Michigan, MANVILLE 681.—Pituitary, circulation and nerves, GREEN 409.—Fig., of Venezuela, RÖHL 920.

Bufo americanus americanus, on Oklahoma records, BRAGG 123.—From Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—On Oklahoma records, DUNDEE & BRAGG 280.

Bufo arenarum, composition of body fat, CATTANEO, SUTTON & PENHOS 195.—Action of thyroxine on heart, CAYAFFA-BONIFAZ & VIGNOLO-PUGLIA, W. H. 197.—Paratoid gland synthesizes epinephrine but not arterenol, FISCHER & LECOMTE 336.—Oviduct secretion, GALLI-MAININI 380.—Action of ovary, and oestrogen on oviduct, GALLI-MAININI 381.—Advantage for use in early pregnancy tests, JONES 534.—Experiments on skin colour change; Mechanism of colour regulation, JUÁREZ 537, 538.—In Patagonia, KRIEG 581.—Resistance to water by eggs, ORIAS & ALLENDE 805.—Effect of castration on oviduct and Bidder's organ, PENHOS 835.—Influence of fasting and forced feeding, PENHOS & CARDEZA 836.—Experiments on lungs to hormones, etc., MAZZELLA 694.—Effect of drug on muscle, SEGUNDO 987.—Effects of Tolserol on neuromuscular excitability, SEGUNDO & PATETTA-QUEIROLO 988.—Action of thyroxine on heart, VIGNOLO-PUGLIA & CAYAFFA-BONIFAZ 1162.

Bufo bankorensis, from Formosa, use in pregnancy test, CHU 217.

Bufo blombergi, **sp. nov.**, from Nachao, Province of Nariño, 90 k. n.w. of Pasto, S.W. Colombia, Zoologica, N.Y. 36 1951 p. 279 figs., MYERS & FUNKHOUSER 751.

Bufo bocourti, from Guatemalan Plateau; Distributional implications of temperature tolerances and hemoglobin values, STUART 1084, 1085.

Bufo boreas, of Elk Mtns., Colorado, BLAIR 97.—Fig., key to subspecies; on adult, larval forms and eggs,

STEBBINS 1059.—*B. b. halophilus* of Santa Ana Mts., California, PEQUEGNAT 837.—Reported in sea, California, SCHMIDT 969.

Bufo bufo from the grotto of Rochereil, Grand Brassac, Dordogne Dept., S.W. France, ASTRE 46.—On sensibility to colour and light, BIRUKOW 93.—Study on metamorphosis, figs., BLAIZOT, S. & J. 99.—Alteration of morphological structures on catalysis and respiratory processes, BONDI 111.—Quantitative changes of ascorbic acid during metamorphosis, BUCCI 164.—Oxygen uptake of embryos and larvae treated with phenanthrenchinone, CAGLIOTI 177.—On behaviour of tadpoles and young; On feeding habits, behaviour, EIBL-EIBESFELDT 299; 300.—Blood stream and action of heart, FOXON 353.—Salivary diastases, FRANCIS & EISA 354.—Sex-hormones and sex-differentiation, GALLIEN 374.—Action of sex-hormones, GALLIEN 377.—Southern part of Sor-sele, Swedish Lapland, GAUNITZ 384.—Saccus endolymphaticus development, GUARDABASSI & GRATTAOLA 419.—Action of local anesthetics, GUARINO 420.—In Finland, HAARTMAN 425.—Neuro-secretions and hypophyses, HILD 481.—Influence of salt loss on osmotic regulation, JØRGENSEN 536.—Photo, etc., LEUTSCHER 630.—Experimental regeneration, LUBINSKA & OLEKIEWICZ 658.—Outside structure of eye, MENNER 703.—In Reims area, France, MENU 704.—Usefulness of environmental indices on egg development, MIKULSKI 718.—On lens-regeneration, OKADA 786.—From Rakovnik, nr. Prague, OLIVA 791.—Sex-differentiation, experimental, PADOA 816.—Records on Bookham Common, Surrey, PANCHEN 818.—Experimental supernumerary legs, PERRI 843.—Hermaphroditism, PONSE 866.—On oviduct; Histochemical study on ovulation, RE 895, 896.—On hormonal regulation of clasping reflex; Action of sex hormones on muscle, REY 909, 910.—On heredity; On partial albinism; Case of gyno-genesis, ROSTAND 930, 931, 932.—Effect of strychnine on heart, SALVATORE 948.—Larval feeding mechanisms, SAVAGE, R. M. 959.—In Norway, SOOT-RYEN 1050.—In Norway, STØP-BOWITZ 1082.—Of Finland, SUOMALAINEN & VOIPIO 1086.—Of Hanover, TENIUS 1106.—Use of and

investigation of sensitivity in pregnancy tests, THORBORG & HANSEN 1109.—Effect of "paraoxypropiophenone" on larva, TUSQUES 1136.—Role of water on growth in metamorphosis, WURMBACH 1222.—[*Bufo bufo*], breeding in brackish water, Lancashire, SCHMIDT 969.

Bufo bufo bufo, sexual physiology, BULLOUGH 167.—Distribution in Dorset, DALTON 250.—Presence of enteramine in skin, ERSPAMER & VIALI 308.—Note on reaction to fright, photo, LIERATH 639.—Notes on specimens in terrarium, MÜLLER, W. 741.—Of Germany, voice, NEUBAUR 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.—Figs., col. pl., of Britain, ecology, SMITH, M. A. 1038.

Bufo bufo formosus, haploid-triploid mosaic induced by heat treatment, figs., MUTO 745.—Flavin compound in eye, YAGI 1224.

Bufo calamita, on sensibility to colour and light, BIRUKOW 93.—Distribution in Dorset, DALTON 250.—Photo, notes, LEUTSCHER 630.—In Reims area, France, MENU 704.—Of Germany, voice, NEUBAUR 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.—Breeding in brackish water, SCHMIDT 969.—Figs., col. pl., of Britain, ecology, SMITH, M. A. 1038.—Of Hanover, TENIUS 1106.

Bufo californicus is considered as a subspecies of *B. woodhousii*, SHANNON 997.

Bufo camerunensis camerunensis, from Cameroons, MONARD 730.

Bufo canorus, fig., on adult, larval forms and eggs, STEBBINS 1059.

Bufo carens, on the eye cup-lens correlation, BALINSKY 59.—From Tanganyika T., LOVERIDGE 652.—Of Mozambique, and general distribution, coloration, etc., MANAÇAS 677.

Bufo coccifer, on type locality, DUNN & STUART 284.—Description, tadpole, eastward range extension to Apatzingan, Michoacán and state record, SHANNON 998.

Bufo cognatus, on Oklahoma records, BRAGG 123.—Oklahoma record, BRAGG & DUNDEE 135.—First records from Roger Mills, Pontotoc, Johnston

Counties, Oklahoma, BRAGG & HUDSON 136.—From Utah and New Mexico, CHENOWETH 208.—Fig., on adult, larval forms and eggs, STEBBINS 1059.

Bufo compactilis, noted that no subspecies is found in Arizona, SHANNON 997.—Fig., on adult, larval forms and eggs, STEBBINS 1059.—*B. c. speciosus*, from Texas and Mexico, REESE, R. W. & FIRSCHEIN 900.

Bufo cristatus, from San Lucas, Camotlán, Oaxaca, SHANNON 998.

Bufo debilis, from Mexico, REESE, R. W. & FIRSCHEIN 900.—Col. pl., on adult, larval forms and eggs, STEBBINS 1059.—On geographical variation, subspecies recognized, ranges, descriptions; *B. debilis debilis*, fig., range, S.W. Kansas between 101° and 98° W., S. through W. Oklahoma (excluding W. Panhandle), Texas, E. to line from Dallas to Atascosa Co., W. to about 101° 30' W. long., S.E. through E. Tamaulipas, Mexico; *B. d. insidiator*, fig., range S.E. Colorado and S.W. Kansas, South through N.W. Oklahoma; Texas W. of about 101° 30' W. long., E. and S. New Mexico; S.E. Arizona; extreme W. Sonora, C. Coahuila and C. Zacatecas, Mexico; *B. d. retiformis*, **subsp. nov.**, from 14.4 mls. S. Ajo, Pima Cnty., Arizona, p. 153 fig.; *B. d. kelloggi*, range N. Nayarit probably to S. Sonora, Field & Lab. 19 4 1951, SANDERS & SMITH, H. M. 951.

Bufo funereus, from Cameroons, MONARD 730.

Bufo granulosus, from Brazil, SCHMIDT & INGER 973.

Bufo hemiophrys, fig., on adult, larval forms and eggs, STEBBINS 1059.

Bufo himalayanus, from Nepal, SMITH, M. A. 1041.

Bufo horribilis, from Mexico, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Bufo ictericus, on normal development, figs., ROSA 925.

Bufo insidiator, on Oklahoma records, Kansas and Nebraska, BRAGG 123.

Bufo marinus, parotid gland synthesizes epinephrine but not arterenol, FISCHER & LECOMTE 336.—Synaptic

transmission in the superior cervical ganglion, MALCOLM 671.—Introduction into Puerto Rico and observations on economic use, PEREZ 839.—Investigation on venom, RIBEIRO D' SOUZA 912.—Fig., of Venezuela, RÖHL 920.—Breeding in brackish water, SCHMIDT 969.—From Bolivia and Brazil, SCHMIDT & INGER 973.—Distributional implications of temperature tolerances and hemoglobin values, STUART 1085.—On Solomon Id., specimens, TANNER 1096.—*B. m. poeppigii*, in Peru, TITSCHACK 1119.

Bufo maritanicus, parotid gland synthesizes epinephrine but not arterenol, FISCHER & LECOMTE 336.

Bufo melanostictus, from Formosa, use in pregnancy test, CHU 217.—Use in pregnancy tests, NADKARNI & BROKER 752.—On anatomical variations in a polymelous specimen, SAMARASINGHE 949.—Breeding in brackish water, Ganges delta, SCHMIDT 969.

Bufo microscaphus, fig., key to subspecies, on adult, larval forms and eggs, STEBBINS 1059.

Bufo nayaritensis, peculiar behaviour during amplexus, fig., FIRSCHEIN 330.

Bufo nigricans, in Peru, TITSCHACK 1119.

Bufo olivaceus, from Iran, WETTSTEIN & LÖFFLER 1193.

Bufo paracnemis, from Brazil, SCHMIDT & INGER 973.

Bufo peltacephalus from Cuba, ALOYO 17.

†*Bufo praeivius*, **sp. nov.** and other anuran remains from Miocene of Florida, Copeia 1951 p. 230 pl, TIHEN, J. A. 1115.

Bufo punctatus, on Oklahoma specimens, BRAGG & DUNDEE 135.—From Utah, CHENOWETH 208.—Fig., on adult, larval forms and eggs, STEBBINS 1059.

Bufo raddei, reported in sea at Chefoo, China, SCHMIDT 969.

Bufo regularis, on the eye cup-lens correlation, BALINSKY 59.—Water uptake and moulting.—Effect of pituitary preparations on water balance, EWER 318, 319.—From Portuguese Guinea, description, habits, MANAÇAS 676.—O Mozambique, and general distribution,

coloration, etc., MANAÇAS 677.—From Cameroons, MONARD 730.—From Abyssinia, SCORTECCI 986.—*B. r. regularis*, from Tanganyika T., LOVERIDGE 652.

Rana ridibunda, adapted to salt-water, SCHMIDT 969.

Bufo sinus, on type locality, DUNN & STUART 284.—Re-described, plate, TAYLOR, E. H. 1098.

Rana sphenoccephala, in salt water in N. Carolina, SCHMIDT 969.

Bufo spinulosus, in Peru, TITSCHACK 1119.

Bufo superciliaris, from Cameroons, MONARD 730.

Bufo taitanus, from Murlè, Abyssinia, SCORTECCI 986.

Bufo terrestris from Virginia, WERLER & McCALLION 1189.—*B. t. americanus*, in Kansas, BREUKELMAN & CLARKE 144.—From Greene Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty., Penn., HEILMAN 460.—Wisconsin records, SUZUKI 1088.—*B. t. charlesmithi*, first records from Washington and Noble Counties, Oklahoma, BRAGG & HUDSON 136.

Bufo tuberosus, from Cameroons, MONARD 730.

Bufo valliceps, from Texas and Mexico, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.—*B. valliceps* and *B. w. fowleri*, interspecific mating, ORTON 811.

Bufo viridis, alteration of morphological structures on catalysis and respiratory processes, BONDI 111.—On enzymes, ESPOSITO SEU MARGHERITA 309.—Muscular activity, KRÜGER & HANISCH 584.—In Reims area, France, MENU 704.—Collida secretion of pituitary in the sinus capillary, METUZALS 714.—From Rakovnik, nr. Prague, OLIVA 791.—Breeding in brackish water, SCHMIDT 969.—Of Hanover, TENIUS 1106.—Sensitivity to chorionic gonadotrophin in April and May, WOHLZOGEN & HALAMA 1210.—*B. v. viridis*, in terrarium, notes, MÜLLER, W. 741.—Of Germany, voice, NEUBAUER 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Ger-

many, RÜHMEKORF 939.—From Iran, WETTSTEIN & LÖFFLER.

Bufo vulgaris, see under *Bufo bufo*.

Bufo woodhousii, Oklahoma record, BRAGG & DUNDEE 135.—*B. woodhousii*, subsp. ? from Oklahoma, BRAGG 123.—*B. woodhousii*, fig., on adult, larval forms and eggs, STEBBINS 1059.—*B. w. woodhousii*, observation on necessity for size selection of food by young, BRAGG 126.—Data on size range in adults, BRAGG 130.—In Kansas, BREUKELMAN & CLARKE 144.—From Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From New Mexico and Utah, CHENOWETH 208.—*B. w. fowleri*, from Greene Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty., Penn., HEILMAN 460.—Note on loss of jaw-tags by marked specimens, STILLE 1078.—On doubtful Wisconsin record, SUZUKI 1088.—From Virginia, WERLER & McCALLION 1189.—*B. w. fowleri* & *B. valliceps*, interspecific mating, ORTON 811.—*B. w. microscaphus* Cope, revived for a population of Arizona-Nevada-Utah toads previously known as *B. compactilis speciosus*, SHANNON 997.—*Bufo woodhousii velatus*, subsp. nov., from Elkhart, Anderson Cnty., Texas, includes description of larva; suggested vernacular name, "The dark-breasted toad"; Wasmann J. Biol. 9 3 1951 p. 366 figs., BRAGG, A. N. & SANDERS, O. 137.

Nectophrynoides tornieri, on direct development, ORTON 812.

CENTROLENIDAE

Centrolenidae, Fam. nov., for *Cochranella* and *Teratophyla*, Proc. biol. Soc. Wash. 64 1951 p. 36, TAYLOR, E. H. 1099.

Cochranella, gen. nov., for the following species of *Centrolenella*: *granulosa* Taylor, genotype; *eurygnatha* (Lutz); *fleischmanni* (Boettg.); *colymbiphyllum* (Taylor); *granulosa* (Taylor); *pulverata* (Peters); *uranoscopa* (Muller); *viridissima* (Taylor); *valerioi* (Dunn); *albomaculata* (Taylor); ? *buckleyi* (Boul.); ? *parambae* (Boul.); *chrysops* (Cope); *parvula* (Boul.); Proc. biol. Soc. Wash. 64 1951 p. 34, TAYLOR, E. H. 1099.

Teratohyla, **gen. nov.**, for *Centrolenella spinosa* Taylor, genotype, Proc. biol. Soc. Wash. 64 1951 p. 35, TAYLOR, E. H. 1099.

DISCOGLOSSIDAE

Alytes obstetricans, on sensibility to colour and light, BIRUKOW 93.—Action of sex-hormones, GALLIEN 377.—On regeneration limits, fig.—Experimental regeneration.—On regeneration, LE-CAMP 619, 620, 621.—In Reims area, France, MENU 704.—Of Germany, voices, NEUBAUER 764.—Of Hanover, TENIUS 1106.—Hormone modification.—Hormonal modification of sex differentiation and sex-reversal, WITSCHI 1203, 1205.—*A. o. obstetricans*, on egg laying, photo, HÖRICH 503.—On larva of N.W. Germany, RÜHMEKORF 939.

Bombina [*Bombinator*] on otic system, ANDRES 31.—[†*Bombinator*], from ice-age cave deposits in Germany, BRUNNER 160.—[*Bombinator*], effect of "athylurethan" on development, STROINK 1083.—*Bombina bombina*, age distribution of population and its dynamics, BANNIKOV 63.—Records in Denmark, PFAFF 852.—Regeneration of limbs by hydrolysis of cartilage, POLEZHAEV & RAMENSKAYA 865.—On limb regeneration, ROGAL 919.—*B. bombina*; *variegata*, from Rakovnik, nr. Prague, OLIVA 791.—*B. bombina*, *B. variegata variegata* of Germany, voices, NEUBAUER 764.—*B. bombina*, *B. v. variegata*, on larva of N.W. Germany, RÜHMEKORF 939.—*B. pachypus*, cytology determination of the adhesive glands, CHEN & BALTZER 206.—*B. variegata*, on sensibility to colour and light, BIRUKOW 93.—In Reims area, France, MENU 704.—Larval feeding mechanisms, SAVAGE, R. M. 959.—*B. variegata*, *B. pachypus*, general notes on habits and suitability for terraria, REMACLE 905.—*B. variegata*, *B. bombina*, of Hanover, TENIUS 1106.

Discoglossus pictus, on pituitary of neotenic specimens, experimental and natural, DELSOL 260.—On enzymes, ESPOSITO SEU MARGHERITA 309.—Sex-hormones and sex-differentiation.—Action of sex-hormones, GALLIEN 374, 377.—Development stages, GALLIEN & HOUILLON 379.—On skull, nasal cavities and glands, ZYL 1233.

HYLIDAE

Key to W. North American genera and species, adult, larval forms and eggs, STEBBINS 1059.

Acris crepitans, winter migration in Oklahoma, BLAIR 95.—Oklahoma records, BRAGG 123.—and BRAGG & DUNDEE 135.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Of Maryland, fig., COOPER 231.—From Lebanon Cnty., Penn., HEILMAN 460.—Wisconsin records, SUZUKI 1088.—*A. crepitans blanchardi*, in Kansas, BREUKELMAN & CLARKE 144.—On tadpoles from S.W. Missouri, ORTON 810.—*A. fowleri*, from Greene Cnty., Ohio, DUELLMAN 277.—*A. gryllus*, fig., from Western N. America, ecology, etc., adult, larvae and eggs, STEBBINS 1059.—*A. g. gryllus* from Virginia, WERLER & MCCALLION 1189.

Acrodytes spilomma, from Veracruz, REESE, R. W. & FIRSCHEIN 900.

Agalychris callidryas, *A. helenae*, on type localities, DUNN & STUART 284.

Centrolenella is a synonym of *Centrolene*; some species are referred to *Cochranella* **gen. nov.**, and *Teratohyla*, **gen. nov.** (*Centrolenidae*, **Fam. nov.**); TAYLOR, E. H. 1099.

Gastrotheca williamsoni, fig., of Venezuela, RÖHL 920.—*G. boliviana*, *G. marsupinata marsupinata*, in Peru, TITSCHACK 1119.

Gephyromantis methueni, col. figs. and text-figs., from Madagascar; *G. variabilis*, **sp. nov.**, from Perinet, and Itremo, Madagascar, figs., and notes on habitat habits of both species; Mem. Inst. sci. Madagascar 5A 1 1951 p. 205, MILLOT & GUIBÉ 724.

Hemiphractus divaricatus, on direct development, ORTON 812.

Hyla, key to Western N. American species, adult, larval forms and egg, figs., STEBBINS 1059.—*Hyla* sp., larvae of two species from San Lucas Camotlán, Oaxaca, described and fig., SHANNON 998.

Hyla albomarginata, col. photo, fig., in terrarium, OERTTER 781.

Hyla arborea, on sensibility to colour and light, BIRUKOW 93.—Reported presence in Dorset, DALTON 250.—

Muscular activity, KRÜGER & HANISCH 584.—On young in aquarium, LANG, H. 595.—In Reims area, France, MENU 704.—On colour change, MÜSSBICHLER & UMRATH 744.—On lens-regeneration, OKADA 786.—Tail regeneration, SANTA 953.—Of Hanover, TENIUS 1106.—In pregnancy tests, WOHLZOGEN & HALAMA 1211.—*H. a. arborea* of Germany, voice, NEUBAUR 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.—*H. a. savignyi*, cytomorphosis of Mauthner's cell during normal development and experimental metamorphosis, BAFFONI & CATTÉ 52.—*H. arborea* subsp. ? from Iran, WETTSTEIN & LÖFFLER 1193.

Hyla arenicolor of Santa Ana Mts., California, PEQUEGNAT 837.—Fig., of Western N. America, ecology, etc., STEBBINS 1059.

Hyla aurea, noted eating young Australian snakes, figs., FLEAY 341.

Hyla bistincta labeculata, **subsp. nov.**, from San Lucas Camotlán, Oaxaca, Proc. U.S. nat. Mus. 101 3284 1951 p. 470 fig., and fig. larva mouth, SHANNON 998.

Hyla cinerascens, LUTZ 660.

Hyla cinerea, sexual physiology, BULLOUGH 167.—*H. c. cinerea*, from bromelia in Florida, NEILL 759.—From Virginia, WERLER & McCALLION 1189.—*H. c. cinerea*, *H. c. evittata* of Maryland, figs., COOPER 231.

Hyla crepitans, fig., of Venezuela, RÖHL 920.—From Brazil, SCHMIDT & INGER 973.

Hyla crucifer, from Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*H. c. crucifer*, on Oklahoma specimen, BRAGG & DUNDEE 135.—Of Maryland, figs., COOPER 231.—From Greene Cnty., Ohio, DUELLMAN 277.—From Lebanon Cnty., Penn., HEILMAN 460.—Wisconsin records, SUZUKI 1088.—From Virginia, WERLER & McCALLION 1189.

Hyla ebraccata, on type locality, DUNN & STUART 284.

Hyla femoralis, of Maryland, fig., COOPER 231.

Hyla granosa, figs., LUTZ 660.

Hyla infrafenata infrafenata, from Admiralty Ids., Los Negros, TANNER 1095.

Hyla milleri, **sp. nov.**, from San Lucas Camotlán, Oaxaca, Proc. U.S. nat. Mus. 101 3284 1951 p. 473 figs. and fig. larva mouth, SHANNON 998.

Hyla nana, from Brazil, SCHMIDT & INGER 973.

Hyla ornatissima, fig., LUTZ 660.

Hyla perpusilla, figs., specimens of this complex from Alcatrazes Id., São Paulo, Brazil.—Figs., adults and larvae, from Queimada Grande Id., São Paulo, Brazil, LEÃO 616, 617.

Hyla phaeocrypta, notes on breeding, eggs, larvae, figs., PARKER, M. V. 823.

Hyla picta, from Veracruz, REESE, R. W. & FIRSCHEIN 900.

Hyla punctata punctata fig.; *H. p. rubrolineata*, **subsp. nov.** p. 307, fig., from Buena Vista, Bolivia; Mem. Inst. Osw. Cruz 47 3-4 1951, LUTZ, B. 660.

Hyla regilla, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—Study in protein metabolism, EAKIN, BERG & KUTSKY 289.—On development of the neural lobe of the pituitary in hypophysectomized embryos, EAKIN & BUSH 290.—Transplanted pituitary experiments, EAKIN & HARRIS 291.—Protein metabolism of embryo, EAKIN, KUTSKY & BERG 292.—Use of voice as film sound effect, MYERS 748.—Of Santa Ana Mts., California, PEQUEGNAT 837.—Fig., of Western N. America, ecology, etc., STEBBINS 1059.

Hyla rhodoporus, fig., LUTZ 660.

Hyla richardsi, from Mexico, northward range extension in Veracruz, and first record from Puebla, REESE, R. W. & FIRSCHEIN 900.

Hyla rubra, from Brazil, SCHMIDT & INGER 973.—*H. rubra duartei*, **subsp. nov.**, from Itatiaia, Brazil, O. Hospital, Rio de J. 39 5 1951 p. 705, LUTZ, B. 662.

Hyla septentrionalis from Cuba, ALOYO 17.

Hyla spegazzinii, from Brazil, SCHMIDT & INGER 973.

Hyla squirella, from bromelia in Florida, NEILL 759.

Hyla staufferi, from Veracruz, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Hyla sylvatica, pituitary, circulation and nerves, GREEN 409.

Hyla taurina, from Bolivia, SCHMIDT & INGER 973.

Hyla thesaurensis, on Solomon Ids., specimens, support in considering, *macrops*, *lutea*, *solomonis* as synonyms of *thesaurensis*, TANNER 1096.

Hyla underwoodi, on identity; now suggested, *H. microcephala microcephala*; *H. m. underwoodi*; *H. m. sartori*, **subsp. nov.**, p. 186, from central S. Guerrero; *H. m. martini*, **subsp. nov.**, p. 187, from C. Veracruz to Alta Verapaz, Guatemala, and probably Brit. Honduras, northward in the Yucatan peninsula to Chicken Itza; Herpetologica 7 1951, SMITH, H. M. 1031.

Hyla variolosa, see *H. punctata*, LUTZ 660.

Hyla venulosa, fig., of Venezuela, RHÖL 920.

Hyla versicolor, on Drummond Id., Michigan, MANVILLE 681.—On tadpole from S.W. Missouri, ORTON 810.—*H. v. versicolor*, on Oklahoma records, BRAGG 123.—In Kansas, BREUKELMAN & CLARKE 144.—Rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Of Maryland, fig., COOPER 231.—From Greene Cnty., Ohio, DUELLMAN 277.—On Oklahoma records, DUNDEE & BRAGG 280.—From Ontario, EVANS, H. E. & ROECKER 310.—First record for Lebanon Cnty., Penn., HEILMAN 460.—Wisconsin records, SUZUKI 1088.—From Virginia, WERLER & McCALLION 1189.—*H. v. versicolor*, *H. v. chrysocelis*, notes on Oklahoma subspecific validity, BRAGG 125.

Hyla wrightorum, fig., of Western N. America, ecology, etc., STEBBINS 1059.

Palmatorappia solomonis, from Solomon Ids. (Buka), TANNER 1096.

Phyllomedusa bicolor, fig., of Venezuela, RHÖL 920.—*P. hypochondrialis*, from Brazil, SCHMIDT & INGER 973.—*P. iheringi*, on the ontogeny of the telencephalon, KÄLLÉN 544.

Plectrohyla cotzicensis, *guatemalensis*, from Guatemalan Plateau, STUART 1084.

Pseudacris brachyphona, of Maryland, figs., COOPER 231.—*P. brimleyi* from Virginia, WERLER & McCALLION 1189.—*P. clarkii*, on Oklahoma records, BRAGG 123.—On adults and larva of Oklahoma, BRAGG & DUNDEE 135.—First records from Stephens, Grady, Cotton Counties, Oklahoma, BRAGG & HUDSON 136.—In Kansas, BREUKELMAN & CLARKE 144.—On Oklahoma records, DUNDEE & BRAGG 280.—*P. nigrita*, fig., of Western N. America, ecology, etc., adult, larvae and eggs, STEBBINS 1059.—*P. nigrita feriarum*, of Maryland, figs., COOPER 231.—*P. n. triseriata*, noted during November in Oklahoma;—Of Elk Mtns., Colorado, BLAIR 95, 97.—In Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From New Mexico, CHENOWETH 208.—From Greene Cnty., Ohio, DUELLMAN 277.—Wisconsin records, SUZUKI 1088.—*P. nigrita triseriata* ♀ × *Scaphiopus h. holbrookii* ♂, hybridization experiments, HAN-PO 447.—*P. triseriata*, on Oklahoma records, BRAGG 123.—First record from Stephens Cnty, Oklahoma, BRAGG & HUDSON 136.—On Oklahoma records, DUNDEE & BRAGG 280.—*P. streckeri*, first record from Stephens County, Oklahoma, BRAGG & HUDSON 136.—On Oklahoma records, DUNDEE & BRAGG 280.—*Pseudacris streckeri illinoensis*, **subsp. nov.**, from Meredosia Morgan Cnty., Illinois, Bull. Chicago Acad. Sci. 9 9 1951 p. 190 figs., SMITH, P. W. 1043.—*P. versicolor*, effects on the M-cell of loss of tail innervation and of thyroid hormone, WEISS & ROSSETTI 1185.

Pternohyla fodiens, phragmosis and the "Unken Reflex", FIRSCHEIN 331.

Smilisca baudinii baudinii, from Mexico, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

HYPEROLIIDAE

Hyperoliidae, **Fam. nov.** to include subfamilies, Astylosterninae, Arthroleptinae, Hyperolinae, Hemisinae (?), Scaphiophryninae, LAURENT 613.

LEIOPELMATIDAE
see ASCAPHIDAE

LEPTODACTYLIDAE

Ceratophrys cornuta, fig., of Venezuela, RÖHL 920.

Crossodactylus dispar grandis, **subsp. nov.**, from Itatiaia, Brazil, Hospital, Rio de J. 39 5 1951 p. 707, LUTZ, B. 662.

Cycloramphus, on taxonomic position ; *C. fuliginosus* Tschudi is valid genotype; key to species ; *fuliginosus*, fig., *asper*, fig. ; *pinderi*, fig. ; *dubius*, fig. ; *granulosus*, fig. ; *eleutherodactylus*, fig. ; *distinctus*, fig. ; all redescribed ; *Iliodiscus* considered a synonym, genotype designated ; *Telmatobius brasiliensis*, *Iliodiscus lutzi*, *Grypiscus scleromeris* are synonyms of *C. fuliginosus* ; *C. boulengeri*, *Telmatobius duseni*, *Iliodiscus semipalmatus* are synonyms of *C. asper* ; lectotypes and lectoalotypes of *Iliodiscus dubius* and *I. eleutherodactylus* are designated ; *I. eleutherodactylus* type series modified, BOKERMANN 109.

Cyclorana (Chiroleptis) platycephalus and *albuguttatus*, functional and degenerate or rudimentary glomeruli in kidney, DAWSON 256.

Eleutherodactylus atkinsi from Cuba, ALOYO 17.—*E. binotatus*, from Queimada Grande Id., São Paulo, Brazil, LEÃO 617.—*E. cooki*, on direct development, ORTON 812.—*E. laticeps* ; type locality restricted to Champotón, Campeche ; redescribed, photo., FIRSCHEIN 332.—*E. latrans*, distribution and physiographic influences of the Edwards Plateau, Texas, CURTIS 245.—Fig., from Western N. America, habits, etc., adult, larvae and eggs, STEBBINS 1059.—*E. natator*, from Veracruz, REESE, R. W. & FIRSCHEIN 900.—From San Lucas Camotlán, Oaxaca, SHANNON 998.—*E. ricordii planirostris*, recorded from S. Bimini and Hatchet Bay, Eleuthera, Bahama Ids., GOIN 403.—From bromelia in Florida, NEILL 759.—*E. sierrae-maestrae*, from Cuba, ALOYO 17.—*E. venustus* ; *rhodopsis* ; *dunni*, from Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Elosia pulchra, **sp. nov.** from Alto Itatiaia, Brazil, Hospital, Rio de J. 39 5 1951 p. 706, LUTZ, B. 662.

Grypiscus scleromeris, is a synonym of *Cycloramphus fuliginosus*, BOKERMANN 109.

Iliodiscus Mir.-Rib. 1920, considered a synonym of *Cycloramphus* ; *I. lutzi* a synonym of *C. fuliginosus* ; *I. semipalmatus* is a synonym of *C. asper* BOKERMANN 109.

Leptodactylus caliginosus, from Brazil, SCHMIDT & INGER 973.—*L. chaquensis*, description of hermaphrodite specimen, figs., PISANÓ & RENGEL 862.—*L. labialis*, from Mexico, including first record from Puebla, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.—*L. melanonotus*, on type locality, DUNN & STUART 284.—Description of tadpole, figs., ORTON 809.—From Veracruz, including first record from Puebla, REESE, R. W. & FIRSCHEIN 900.—*L. nanus*, figs., from Alcatrazes Id., São Paulo, Brazil, LEÃO 616.—From Brazil, SCHMIDT & INGER 973.—*L. ocellatus*, experiments on lungs with hormones, etc., MAZZELLA 694.—Action of high temperatures on spermatogenesis, figs., RENGEL 906.—From Brazil, SCHMIDT & INGER 973.—*L. pentadactylus*, observations on life history, development of egg and larvae, VINTON 1169.—*L. pentadactylus matogrossensis*, **subsp. nov.**, from Urucum de Corumba, Matto Grosso, Fieldiana Zool. 31 42 1951 p. 444, SCHMIDT & INGER 973.—*L. typhoniis*, from Brazil, SCHMIDT & INGER 973.—*L. ocellatus*, *L. chaquensis*, *L. bufoniis*, *L. prognathus*, observations on chromosomes and spermatozoa, figs., BARBIERI 65.

Limnodynastes tasmaniensis, in terrarium, MÜLLER, W. 742.

Physalaemus maculiventris, description, biological notes, tadpole, LUTZ 661.

Pseudopaludicola falcipes, on ethology and reproduction, BARRIO 69.

Syrhropus campi, from Mexico ;—*S. cystignathoides*, from Mexico ; including first records from low elevation, REESE, R. W. & FIRSCHEIN 900.—*S. cystignathoides*, specimen from Tamazunchale, definitely establishes species in San Luis Potosi, SHANNON 998.—*S. rubrimaculata*, from Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Telmatobiinae, subfam. nov., for genus *Telmatobius*, Mem. Mus. Hist. nat. Prado, No. 1 1951 p. 21, VELLARD 1158.

Telmatobius, revision; *Telmatobiinae*, **subf. nov.**, p. 21, species recognised, *T. peruvianus*, fig., *T. intermedius*, **sp. nov.** p. 29 fig., type locality, Allipacca, Cerca de Puquio, 2,300 m. Pacific Andes; 14° 40' L.S.; *T. marmoratus*, figs.; *T. m. pustulosus*, fig.; *T. m. hintoni*; *T. jelskii*, figs.; *T. culeus*, fig.; *T. albiventrís*, fig.; *T. a. punensis*, **subsp. nov.**, p. 57, types from Puno; *T. a. parkeri*, **subsp. nov.**, p. 58 fig., types from Arapa Lake, N. of Lake Titicaca; *T. escomeli*, fig.; *T. e. crawfordi*, *T. e. exsul*, **subsp. nov.**, p. 66 fig., from Yura, 2,575 m.; *T. latirostris*, **sp. nov.**, p. 68 fig., from Cutervo, N. Peru; *T. brevipes*, **sp. nov.**, p. 71 figs., from Huamachuco, Peru; *T. ignavus*; *T. verrucosus*; *T. bolivianus*; *T. simonsii*, *T. hauthali*; *T. h. schreiteri*; *T. oxycephalus*; *T. montanus*; *T. laevis*; *T. halli*; *T. niger*; *T. cinereus*; descriptions of all these forms; photographs of larva of *T. peruvianus*, *m. marmoratus*; *m. pustulosus*; *jelskii*; *albiventrís prunensis*; Mem. Mus. Hist. nat. Prado, No. 1 1951, VELLARD 1158.—*T. brasiliensis*, is a synonym of *Cyclorhynchus fuliginosus*, *T. duseni* is a synonym of *C. asper*, BOKERMANN 109.

MICROHYLIDAE

Anodontohyla boulengeri, from Madagascar, and notes on habitat habits, MILLOT & GUIBÉ 724.

Breviceps mossambicus, of Mozambique, and general distribution, coloration, etc., MANAÇAS 677.

Calluella guttulata, of Thailand, SUVATTI 1087.

Chaperina fusca, larval feeding mechanisms, SAVAGE, R. M. 959.

Cophyla phyllodactyla, col. figs., from Madagascar, and notes on habitat habits, MILLOT & GUIBÉ 724.

Elachistocleis ovale, from Brazil, SCHMIDT & INGER 973.

Gastrophryne carolinensis from Virginia, WERLER & MCCALLION 1189.—*G. carolinense carolinense*, first record in Lee County, S.W. part of Virginia, FOWLER & HOFFMAN 348.

Glyphoglossus molossus, of Thailand, SUVATTI 1087.

Hemisus marmoratum, of Mozambique, general distribution, coloration, etc., MANAÇAS 677.—*H. m. marmoratum* from Tanganyika T., LOVERIDGE 652.

Hypopachus barberi, from Guatemalan Plateau, STUART 1084.—*H. cuneus cuneus*, from Texas, REESE, R. W. & FIRSCHEIN 900.—*H. incrassatus*, from Brazil, SCHMIDT & INGER 973.

Kalophrynus pleurostigma, of Thailand, SUVATTI 1087.

Kaloula pulchra; *mediolineata*, of Thailand, SUVATTI 1087.

Microhyla, on Thailand species, SUVATTI 1087.—*M. carolinensis*, report on albino tadpoles, ANDERSON 29.—Oklahoma records of this species are discussed, BRAGG 123.—Fig., of Western N. America, ecology, etc., key to larvae and eggs, STEBBINS 1059.—*M. c. carolinensis*, of Maryland, fig., COOPER 231.—*M. c. carolinensis*, *M. c. olivacea*, on Oklahoma records, adults and larvae, BRAGG & DUNDEE 135.—*M. c. olivacea*, first records from Jackson, Johnson, Stephens, Cotton counties, Oklahoma, BRAGG & HUDSON 136.—*M. olivacea*, in Kansas, BREUKELMAN & CLARKE 144.—From Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Ecological study in Kansas, FREIBURG 358.—First record from Tamaulipas, REESE, R. W. & FIRSCHEIN 900.—*M. usta usta*, from Veracruz, REESE, R. W. & FIRSCHEIN 900.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Paracophyla tuberculata, **gen. & sp. nov.**, from Perinet, Analamazoatra forest, Madagascar; figs., ad. and scapula; notes on habitat habits, Mém. Inst. sci. Madagascar, 5A 1 1951 p. 209, MILLOT & GUIBÉ 724.

Platypelis millot, from Madagascar, col. figs.; osteology, figs., and notes on habitat habits, MILLOT & GUIBÉ 724.

Plethodontohyla notostica, col. fig. of ad., figures of larvae, from Madagascar, and notes on habitat habits, MILLOT & GUIBÉ 724.

PELOBATIDAE

Megalophrys, species of Thailand, SUVATTI 1087.

Pelobates cultripipes, effect of abnormal rain fall in the Pyrenees-Orientales, France, PETIT & DELABIE 849.—*P. fuscus*, notes on tadpoles in aquarium, DYK 288.—In Reims area, France, MENU 704.—Usefulness of environmental indices on egg development, MIKULSKI 718.—Of Hanover, TENIUS 1106.—*P. f. fuscus* of Germany, voices, NEUBAUR 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.

Pelodytes punctatus, in Reims area, France, MENU 704.

Scaphiopus, see under Scaphiopidae.

Scutiger sikkimensis from Nepal, 11,000 ft., SMITH, M. A. 1041.

PHRYNOMERIDAE

Phrynomerus bifasciatus from Tanganyika T., LOVERIDGE 652.

PIPIDAE

Study of nasal cavities, PATERSON 825.

Hemipipa carvalhoi, microscopical study of nasal cavities, figs., PATERSON 825.

Pipa pipa, on direct development, ORTON 812.

Pseudhymenochirus merlini, fig., of Portuguese Guinea, MANAÇAS 674, 675.

Xenopus, on vitamin needs, ANON. 1.—Effect of chemicals on bone reduction, BRETSCHER & TSCHUMI 143.

Xenopus laevis, on the eye cup-lens correlation, BALINSKY 59.—Ossification method, figs., BERNASCONI 87.—Rickets and osteoporosis, BRUCE & PARKES 157.—Sexual physiology, BULLOUGH 167.—On functions of skin, figs., ELKAN 302.—Median ventral row "lateral" line organs, figs., ELKAN & MURRAY 303.—On ossification process in femur, FOX, E. & IRVING 349.—Action of sex-hormones, GALLIEN 377.—Regeneration of members after metamorphosis, GALLIEN & BEETSCHEN 378.—Development and degeneration of parietal organ, figs., HAFFNER 430, 431.—Chromatographic studies of amino acids in eggs and embryos, HOLTRETER, KOSZALKA & MILLER 498.—On keeping in captivity,

temperature preferences, food of young includes *Daphnia*, etc., KAHMANN 541.—Properties and changes of alkaline phosphatase activity during development, KRUGELIS 583.—Structure of nasal cavity, PATERSON 815.—Pregnancy tests, PAUL 827.—Experiments on parthenogenesis, ROSTAND 934.—Salt water resistance, SCHMIDT 969.—On the spleen, STERBA 1072.—Use of and investigations of sensitivity in pregnancy tests, THORBERG & HANSEN 1109.—Use in pregnancy tests, TOIVONEN, HARJOLA & TIKKANEN 1128.—On technique of mass breeding, VAGNER 1149.—Effects on the M-cell of loss of tail innervation and of thyroid hormone, WEISS & ROSSETTI 1185.—Lipids in blood, WILBER, LIEB & SLANE 1195.—*X. laevis*, *X. mulleri*, from Cameroons, MONARD 730.—*X. mulleri*, of Mozambique, general distribution, colour, etc., MANAÇAS 677.—*X. tropicalis*, fig., of Portuguese Guinea, MANAÇAS 674, 675.

POLYPEDATIDAE

see under RHACOPHORIDAE

RANIDAE

Subfamilies consist of Raninae, Cornuferinae, Mantellinae, Rhacophorinae [Rhacophoridae, that was], Petropedetinae = Phrynobatrachinae, Cacoesterninae, LAURENT 613.—On development of bronchial columella in aquatic ear, WITSCHI 1204.

Arthroleptis stenodactylus stenodactylus from Tanganyika T., LOVERIDGE 652.—*Arthroleptis*—*Phrynobatrachus zavattarii*, **sp. nov.**, from Caschei, p. 327, fig., *A.-P. sciangallorum*, **sp. n.**, from Murle, p. 329 fig., *A.-P. natalensis*, from El Dire (Tertale), Abyssinia, Miss. Biol. Sagan-Omo, Roma, Zool. 1 1943, SCORTECCI 986.

Batrachylodes vertebralis (*chaperina friedricha* is a synonym), from Solomon Ids., TANNER 1096.

Ceratobatrachus guentheri, on Solomon Ids., TANNER 1096.

Cornufer corrugatus, *neckeri*; *guppyi*, Solomon Id., records, TANNER 1096.

Discodeles guppyi (*Rana guppyi*); *D. bufoniformis* (*opisthodon* a synonym), from Solomon Ids., TANNER 1096.

Hypsirana heffernani from Solomon Ids. (Isabel), TANNER 1096.

Mantella betsileo, col. pl., from Madagascar, notes on habitat habits, MILLOT & GUIBÉ 724.

Ooeidozyga laevis, *lima*, *martensii*, of Thailand, SUVATTI 1087.

Phrynobatrachus natalensis, on the eye cup-lens correlation, BALINSKY 59.—*P. natalensis*, *P. giorgii*, from Cameroons, MONARD 730.—*P. sulfureogularis*, **sp. nov.**, from Massif du Nanzerghwa, 2,300–2,500 m., Territoire de Bururi, Urundi, C. Africa, p. 362; *P. asper*, **sp. nov.**, from Kivu (Type locality, Riv. Makenda, 5 km. from S. of May ya Moto, 2,450–2,500 m., bassin de l'Elila, Territoire de Mwenga), C. Africa, p. 364; Rev. zool. Bot. afr. 44 1951, LAURENT, R. 612.

Platymantis sp., from Admiralty Ids., Los Negros, TANNER 1095.—*P. papuensis weberi*; *solomonis*; *myersi*, from Solomon Ids., TANNER 1096.

Pyxicephalus natalensis, on the eye cup-lens correlation, BALINSKY 59.

Rana, key to Western N. American species, adult, larval forms, egg, STEBBINS 1059.—On Thailand species, SUVATTI 1087.—†*Rana* from ice-age cave deposits in Germany, BRUNNER, G. 160.

Rana adspersa edulis from Tanganyika T., LOVERIDGE 652.

Rana agilis, muscular activity, KRÜGER & HANISCH 584.

Rana (Hylorana) albilabris, from Cameroons, MONARD 730.

Rana angolensis, on the eye cup-lens correlation, BALINSKY 59.

Rana (Ptychadaena) ansorgii, from Portuguese Guinea, description, habits, fig., MANAÇAS 676.

Rana arvalis, on larva in Norway, OFTEDAL 783.—In Norway, STØP-BOWITZ 1082.—Of Finland, SUOMALAINEN & VOIPIO 1086.—Of Hanover, TENIUS 1106.—*R. a. arvalis* of Germany, voice, NEUBAUER 764.—Records in Denmark, PFAFF 852.—On larva of N.W. Germany, RÜHMEKORF 939.—*Arvalis* Nilsson (*oxyrhinus*) in Reims area, France, MENU 704.

Rana aurora, figs., of Western N. America, ecology, etc., STEBBINS 1059.

Rana berlandieri, Oklahoma record adults and larvae, BRAGG & DUNDEE 135.

Rana (Ptychadaena) bibronii, from Portuguese Guinea, description, habits, MANAÇAS 676.—From Cameroons, MONARD 730.

Rana boreas boreas, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.

Rana boylei, figs., of Western N. America, ecology, etc., STEBBINS 1059.

Rana brachycephala, Oklahoma records, BRAGG & DUNDEE 135.—Confirmed reports from Stephens County, Oklahoma, BRAGG & HUDSON 136.

Rana bufoniformis, see *Discodeles*.

Rana cancrivora, observations and technique of physiological experiments under tropical conditions, BOER 106.—In brackish water, SCHMIDT 969.

Rana capito ♂ × *R. p. pipiens* ♀, hybridization experiments, HAN-PO 447.

Rana cascadae, on occurrence in Oregon and range, DUNLAP & STORM 281.

Rana catabrigiensis, pituitary, circulation and nerves, GREEN 409.

Rana catesbiana, relation of low temperatures to X-ray injury of tadpoles, ALLEN, SCHJEIDE & HOCHWALD 14.—Oklahoma records, BRAGG & DUNDEE 135.—In Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From Greene Cnty., Ohio, DUELLMAN 277.—On Oklahoma records, DUNDEE & BRAGG 280.—From Ontario, EVANS, H. E. & ROECKER 310.—Pituitary, circulation and nerves, GREEN 409.—On heart metabolism, HASHIMOTO & NUKADA 454.—From Lebanon Cnty., Penn., HEILMAN 460.—Spontaneous appearance of multiple tumours, LLAMBES & GARCIA 644.—Solubilities of fibrinogens in plasma-ethanol mixture, MORRISON, SCUDDER & BLATT 735.—On tadpoles from S.W. Missouri, ORTON 810.—Specimen with six functional legs, figs., PELGEN 831.—Observations on food in Puerto Rico and economic use, PEREZ 839.—From Mexico, including Puebla and Veracruz, REESE, R. W. & FIRSCHEIN 900.—

Occurrence of well developed digital discs in young specimen from Alabama, fig., SMITH, H. M. & LIST **1034**.—Fig., of Western N. America, ecology, etc., STEBBINS **1059**.—Wisconsin records, SUZUKI **1088**.—From Sault Ste. Marie region, Ontario, WARBURTON **1178**.—From Virginia, WERLER & McCALLION **1189**.—Arterial anomalies in the aortic arches, WILLEY **1197**.—Flavin compound in eye, YAGI **1224**.—*R. catesbeiana* (?), distribution of cerebrospinal fluid ; motion picture demonstration, AGERS-BORG **10**.—*R. [catesbeiana]*, use as food, TRESSLER & LEMON **1133**.

Rana clamitans, temperature data on terrestrial hibernation, BOHNSACK **108**.—Effect of antithyroid drugs on uptake of radioactive iodine by thyroid, BRADLEY **120**.—Oklahoma records, BRAGG & DUNDEE **135**.—First records from Choctaw County, Oklahoma, BRAGG & HUDSON **136**.—From Greene Cnty., Ohio, DUELLMAN **277**.—On Oklahoma records, DUNDEE & BRAGG **280**.—From Ontario, EVANS, H. E. & ROECKER **310**.—Duration of tadpole stage, HAN-PO TING **445**.—From Lebanon Cnty., Penn., HEILMAN **460**.—On Little Rogg Id., and Drummond Id., Michigan, MANVILLE **681**.—Effect of parrot fish thyroid on metamorphosis, figs., MATTHEWS & ASH **692**.—On tadpoles from S.W. Missouri, ORTON **810**.—Factors influencing the pregnancy test, REINHARDT, CAPLAN & SHINOWARA **904**.—Fig., of Western N. America, ecology, etc., STEBBINS **1059**.—On thyroid gland, and effect of 2-thiouracil on larvae, STEINMETZ **1067**.—Wisconsin records, SUZUKI **1088**.—Use as food, TRESSLER & LEMON **1133**.—From Virginia, WERLER & McCALLION **1189**.—*R. clamitans* ♂ × *R. p. pipiens* ♀, hybridization experiments, HAN-PO **447**.

Rana cyanophlyctis, in brackish water, Ganges delta, SCHMIDT **969**.

Rana dalmatina, action on pituitary gland, LOUBIERE **650**.—In Reims area, France, MENU **704**.—Of Germany, voice, NEUBAUER **764**.—From Rakovnik, nr. Prague, OLIVA **791**.—Sex-differentiation, experimental, PADOA **816**.—Records in Denmark, PFAFF **852**.—On larva of N.W. Germany, RÜHMEKORF **939**.—On development and sexual differentiation of gonads of tadpoles

and young, SABBADIN **943**.—Of Hanover, TENIUS **1106**.—Organogeny of gonads, VANNINI **1153**.

Rana (Pyxicephalus) delalandii, from Abyssinia, fig., larva, SCORTECCI **986**.

Rana erythraea, surface locomotion, ROMER, J. D. **924**.

Rana esculenta, protein catabolism, ANTONINO **39**.—Value in pregnancy tests, BEVACQUA & FORMENTANO **89**.—Rheology of cross striated muscle, BUCHTHAL **165**.—Sexual physiology, BULLOUGH **167**.—Phosphatases of integument, CAFIERO, GUADABASSI & SACERDOTE **175**.—On permeability of water in skin, CAPRARO, CASES, VECCHI & MOGNA **181**.—Physiology of water passage through skin, CAPRARO & BERNINI **182**.—Influence of pH. on passage of water through skin, CAPRARO, PENNELLA & TIENGO **183**.—On passage of water through skin, CAPRARO & PENNELLA **185**.—Temperature effect on embryos, CATE, KOOIJ & ZUIDWEG **194**.—Pregnancy tests, CERQUIGLIANI **199**.—Muscle biochemistry ; protein, CIGADA **218**.—Structural variation of cells in embryos, COLOMBO **224**.—Pregnancy test use, CRESSERI & BEVACQUA **241**.—Action of adrenaline, CRESSERI & BEVACQUA **242**.—On presence in Dorset, DALTON **250**.—On enzymes, ESPOSITO SEU MARGHERITA **309**.—Apparently distinct race in Padua territory, FACCIO **320**.—Action of adrenaline, FRASSINETI **357**.—Action of sex-hormones, GALLIEN **377**.—Saccus endolymphaticus development, GUADABASSI & GRATAROLA **419**.—Neuro-secretions and hypophyses, HILD **481**.—Influence of salt loss on osmotic regulation, JØRGENSEN **536**.—Food in natural water reservoirs and artificial fish ponds in Poland, JUSZCZYK **540**.—Muscular activity, KRÜGER & HANISCH **584**.—Hormone experiments, LANZA **601**.—Photo, on British specimens, LEUTSCHER **630**.—Note on reaction to fright, photo, LIERATH **639**.—Experimental regeneration, LUBINSKA & OLEKIEWICZ **658**.—Sympathetic system, MAILLET **669**.—Outside structure of eye, MENNER **703**.—In Reims area, France, MENU **704**.—Biological action of X-ray upon gill regions ; grafts and transplantations, NATALE **755**.—On segmental changes in the shape of grey matter of spinal

cord, NEMEC **763**.—Of Germany, voice, NEUBAUR **764**.—From Rakovnik, nr. Prague, OLIVA **791**.—On sex hormones differentiation, PADOA **815**.—Sex-differentiation, experimental PADOA **816**.—Oestrone, progesterone and sex differentiation, PADOA & JALLURI **817**.—Records in Denmark PFAFF **852**.—Experiments with crystalline formation, POPOV **870**.—Action of adrenaline on heart, RABBENO **883**.—Histochemical study on ovulation, RE **896**.—Chondrocranium evolution, REINBACH **903**.—On hormonal regulation of clasping reflex, REY **909**.—On larva of N.W. Germany, RÜHMEKORF **939**.—Sexual differentiation in a well differentiated race and their bearing on the theory of sexual differentiation, SABBADIN **941**.—Sex differentiation, SABBADIN **942**.—On nervous system, SALA **946**.—Adapted to salt water, SCHMIDT **969**.—Local reaction of nervous system to temperatures and chemicals, SCHNEIDER **974**.—Figs., col. pl., of Britain, ecology, SMITH, M. A. **1038**.—Of Hanover, TENIUS **1106**.—Use and investigations of sensitivity in pregnancy tests, THORBERG & HANSEN **1109**.—Mauthner cells and insensibility to thyroxine, TUSQUES **1137**.—Skin structure, VIALLI **1160**.

Rana (Abrana) floweri, from Cameroons, MONARD **730**.

Rana formosa from Nepal, 6,000 ft., SMITH, M. A. **1041**.

Rana fukienensis, taxonomic status, *R. planeyi fukienensis*; variation, life history, figs., HAN-PO TING **446**.

Rana fusca, neuro-secretions and hypophyses, HILD **481**.—Action of lithium on embryos, LALLIER **592**.—On purines present in oocytes, STEINERT **1066**.—Effect of "athylurethan" on development, STROINK **1083**.

Rana galamensis, from Portuguese Guinea, description, habits, MANAÇAS **676**.—From Cameroons, MONARD **730**.

Rana grylio, use as food, TRESSLER & LEMON **1133**.

Rana guppyi, see *Discodeles*.

Rana japonica, electrical stimulation of muscle, HIRAMOTO **488**.—On lens-regeneration, OKADA **786**.—On muscle fibre, TAMASIGE **1094**.—Flavin compound in eye, YAGI **1224**.

Rana krefftii, Solomon Id., records, TANNER **1096**.

Rana liebighii from Nepal, 6,000 ft., SMITH, M. A. **1041**.

Rana macroglossa, from Guatemala Plateau, STUART **1084**.

Rana mascareniensis, of Mozambique, and general distribution, coloration, habits, etc., MANAÇAS **677**.—*R. m. mascareniensis* from Tanganyika T., LOVERIDGE **652**.—*R. (Ptychadaena) mascareniensis*, from Portuguese Guinea, description, habits, MANAÇAS **676**.—From Cameroons, MONARD **730**.—From Abyssinia, SCORTECCI **986**.

Rana narina, from Formosa, use in pregnancy test, CHU **217**.

Rana nigromaculata, on size of liver and spleen, GARVEN **383**.—On offspring of triploid males, figs., KAWAMURA **555**.—On diploid-tetraploid mosaics, figs., KAWAMURA & MIYADA **556**.—Use in pregnancy test, LI, M. H. **635**.—On lens-regeneration, OKADA **786**.—Induction of notochord by ventral skin, OKADA **787**.—Flavin compound in eye, YAGI **1224**.—Ciliary movements of the oviduct, YAMADA **1225**.—*R. n. nigromaculata*, on metabolism of glucose in retina, SEKOGUTI **990**.—*R. n. nigromaculata* and *R. n. brevipoda*, experiments on hybridization, ecological, breeding season and sexual reaction differences, figs., MORIYA **734**.

Rana occipitalis, from Portuguese Guinea, description, habits, MANAÇAS **676**.—From Cameroons, MONARD **730**.

Rana ornata ornata from Tanganyika T., LOVERIDGE **652**.

Rana (Ptychadena) oxyrhynchus, from Cameroons, MONARD **730**.—From Abyssinia, SCORTECCI **986**.—*R. oxyrhynchus oxyrhynchus*, from Tanganyika T., LOVERIDGE **652**.

Rana palmipes, fig., of Venezuela, RÖHL **920**.—From Brazil, SCHMIDT & INGER **973**.—From Chiapas, Mexico, SMITH, P. W. & H. M. **1046**.

Rana palustris, effect of antithyroid drugs on uptake of radioactive iodine by thyroid, BRADLEY **120**.—From Greene Cnty., Ohio, DUELLMAN **277**.—From Lebanon Cnty., Penn., HEILMAN **460**.—Wisconsin records, SUZUKI **1088**.—Use as food, TRESSLER & LEMON **1133**.

Rana papua novaebritanniae, records from Solomon Ids., TANNER 1096.

Rana pipiens, adrenalectomy on water shift, ANGERER 33.—Phosphate transfer in egg, BARTH, L. G. & JAEGER 72.—Winter migration in Oklahoma, BLAIR 95.—Of Elk Mtns., Colorado, BLAIR 97.—Localization of cholinesterase in optic lobe;—Appearance and development of cholinesterase in midbrain, BOELL & SHEN 104, 105.—Effect of antithyroid drugs on uptake of radioactive iodine by thyroid, BRADLEY 120.—Investigation of the capacity for cleavage and differentiation in eggs lacking "functional" chromosomes, BRIGGS, GREEN & KING 146.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—Histology of motor end-plates, COLE 222.—Study in protein metabolism, EAKIN, BERG & KUTSKY 289.—Protein metabolism of embryo, EAKIN, KUTSKY & BERG 292.—Effect of intermedin upon melanin content of skin, FRIEDEN & BOZER 363.—Action of sex-hormones, GALLIEN 377.—Distribution of phosphorus in tadpoles, GENNARO & DENT 385.—Effect of maleic hydrazide on embryonic and larval growth, GREULACH, MCKENZIE & STACY 413.—Distribution of phosphorus³² in embryo and larva, HANSBROUGH & DENNY 448.—Effect of bacterial polysaccharide on artificial activation in egg, HARDING 449.—Quantitative reaction to chorionic gonadotropin, HARTMANN-PERDROMO 453.—From Lebanon Cnty., Penn., HEILMAN 460.—Ionic basis of electrical activity in nerve and muscle, HODGKIN 492.—Chromatographic studies of amino acids in eggs and embryos, HOLTRETER, KOSZALKA & MILLER 498.—Development of the pronephros, JAFFEE 527.—Development of intestinal coiling in larva, KEMP 559.—Used in pregnancy tests; method of detoxifying urine, LEVEY & PUTNAM 631.—On Drummond Id., Michigan, MANVILLE 681.—Solubilities of fibrinogens in plasma-ethanol mixture, MORRISON, SCUDDER & BLATT 735.—Investigation on myogen content of leg muscle, NARDONE 754.—Mechanism of epinephrine-induced tachycardia, NICKERSON 765.—Epinephrine

cardio-acceleration in the frog, NICKERSON & NOMAGUCHI 766.—On tadpoles from S.W. Missouri, ORTON 810.—Pregnancy tests, PAUL 827.—Sympathetic rami, PICK & SHEEHAN 855.—Factors influencing the pregnancy test, REINHARDT, CAPLAN & SHINOWARA 904.—Growth inhibition by aminopterine, ROSENBAUM & VELARDO 927.—Embryological text book, RUGH 938.—Identity and specificity of water-balance principle of posterior pituitary extract, SAWYER, TRAVIS & LEVINSKY 961.—Visual cell structure, SHERMAN 1000.—Regeneration of sensory olfactory epithelium and nerves, SMITH, C. G. 1026.—Antigenic differences in early embryos, SPAR 1051.—Method for removal of jelly and vitelline membrane, SPIEGEL 1053.—Fig., of Western N. America, ecology, etc., STEBBINS 1059.—From Guatemalan Plateau, STUART 1084.—Wisconsin records, SUZUKI 1088.—Use as food, TRESSLER & LEMON 1133.—Effects on the M-cell of loss of tail innervation and of thyroid hormone, WEISS & ROSSETTI 1185.—From Virginia, WERLER & MCCALLION 1189.—Lipids in blood, WILBER, LIEB & SLANE 1195.—*R. p. pipiens*, from Greene Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—Riboflavin concentration in tissues, FERGUSON 326.—*R. pipiens*; *R. p. burnsi*, a tyrosinase inhibitor from the skin, BAKER, A. S. 57.—*R. p. austriicola*, from Mexico; *R. p. berlandieri*, from Mexico and Texas, REESE, R. W. & FIRSCHEIN 900.—*R. p. austriicola* from San Lucas Camotlán, Oaxaca, and description and fig. of larva, SHANNON 998.—*R. p. berlandieri*, from New Mexico, CHENOWETH 208.—*R. p. trilobata* from El Salto, Durango, diagnosis of subspecies *trilobata* and *austriicola*, SHANNON 998.

Hybrids :—

Rana pipiens pipiens ♀ × *Scaphiopus h. holbrookii* ♂; *Rana clamitans* ♂; *Rana sylvatica sylvatica* ♂; *Rana capito* ♂; *Rana pipiens sphenoccephala*, hybridization experiments, HAN-PO 447.—*R. pipiens* × *R. burnsi*, experimental work on *burnsi* gene in adult *pipiens*, BAKER, A. S. 56.—*R. p. pipiens* × *R. capito*, hybridization experiments, HAN-PO 447.

Rana plancyi, from Formosa, use in pregnancy test, CHU 217.

Rana platyrrhina, segmentation, nuclear growth and cytoplasmis storage in eggs, ZEUTHEN 1231.

Rana polunini **sp. nov.**, from Langtang Village, Nepal, 11,000 ft., related to *R. blanfordi*, Ann. Mag. nat. Hist. (12) 4 1951 p. 727, SMITH, M. A. 1041.

Rana pretiosa, fig., of Western N. America, ecology, etc., STEBBINS 1059.—*R. p. pretiosa*, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.

Rana (Pyxicephalus) reiensis, **sp. nov.**, from Rei Bouba, Cameroun; Mem. Inst. franç. Afr. noire. Centre de Cameroun Sci. nat. No. 1 1951 p. 181, MONARD, A. 730.

Rana ridibunda, in Finland, KALELAN 542.—In England;—On British specimens, photo, LEUTSCHER 629, 630.—From Rakovnik, nr. Prague, OLIVA 791.—Experiments with crystalline formation, POPOV 870.—Adapted to brackish water, Ionian Ids., and Dalmatia, SCHMIDT 969.—Local reaction of nervous system to temperatures and chemicals, SCHNEIDER 974.—Of Finland, SUOMALAINEN & VOPIO 1086.—Of Hanover, TENIUS 1106.—*R. r. ridibunda* of Germany, voice, NEUBAUR 764.—Records in Denmark, PFAFF 852.—Figs., col. pl., of Britain, SMITH, M. A. 1038.—From Iran, WETTSTEIN & LÖFFLER 1193.

Rana ruddi Boul., is considered a subspecies of *R. ornata*, LOVERIDGE 652.—

Rana rugosa, on lens-regeneration, OKADA 786.—Flavin compound in eye, YAGI 1224.

Rana septentrionalis, Wisconsin records, SUZUKI 1088.

Rana sphenoccephala, on Oklahoma records, BRAGG 123.—Use as food, TRESSLER & LEMON 1133.

Rana sylvatica, effects of antithyroid compounds, COPENHAVER & DETWILER 232.—Pressure and tadpole narcosis, JOHNSON & FLAGLER 532.—On Drummond Id., Michigan, MANVILLE 681.—Hybridization and embryonic temperature adaptation studies, MOORE 732.

—Fig., of Western N. America, ecology, etc., STEBBINS 1059.—Wisconsin records, SUZUKI 1088.—Cortisone action on sex-reversal, WITSCHI & CHANG 1207.—*R. s. sylvatica*, from Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty., Penn., HEILMAN 460.—Record from Georgia extends range 150 miles S.-W., HUMPHRIES 520.—*R. s. cantabrigensis*, record in Kansas, BREUKELMAN & CLARKE 144.—*R. sylvatica sylvatica* ♂ × *R. p. pipiens* ♀, hybridization experiments, HAN-PO 447.

Rana taipehensis on surface locomotion and occurrence in India, ROMER, J. D. 924.

Rana tarahumarae, fig., of Western N. America, ecology, etc., STEBBINS 1059.

Rana temporaria?, partly albino, fig., GRIMM 414.—[*R. temporaria*], breeding in brackish water, Lancashire, SCHMIDT 969.—*R. temporaria*, rheotaxis in larvae, ALVERDES 22.—Experiments on water taste, ANDERSSON & ZOTTERMAN 30.—Protein catabolism, ANTONINO 39.—On specific granules of the pancreatic islet tissue, BARRINGTON 68.—Action of chloracetophenone on eggs, BEATTY 81.—On muscular activity, BRUKOW 94.—Action of metabolites on egg development, BRACHET 119.—Determination of egg polarity, BRÖNDSTED & MEYER 148.—Rheology of cross striated muscle, BUCHTHAL 165.—Sexual physiology, BULLOUGH 167.—Temperature effect on embryos, CATE, KOIJ & ZUIDWEG 194.—Action of urea on development, FAUTREZ 324.—Blood stream and action of heart, FOXON 353.—Action of temperature on hormones, GALGANO & LANZA 368.—Sex-hormones and sex-differentiation, GALLIEN 374.—Action of sex-hormones, GALLIEN 377.—From Sorsele, Swedish Lapland, GAUNITZ 384.—Study of the enteric plexuses, GUNN 423.—In Finland, HAARTMAN 425.—Polymely in specimen from Cornwall, figs., HAMILTON, A. G. 439.—Experimental, differentiation of ova from dehydrated eggs, figs., HANAOKA 444.—Influence of fish hypophysis on metamorphosis, ISATCHENKO 525.—Influence of salt loss on osmotic regulation, JØRGENSEN 536.—Muscular activity, KRUGER & HANISCH 584.—Photo, notes, LEUTSCHER 630.—Vasomotor reflexes, MARCEAU 682.—

In Reims area, France, MENU 704.—Usefulness of environmental indices on egg development, MIKULSKI 718.—Hybridization and embryonic temperature adaptation studies, MOORE 732.—From Rakovnik, nr. Prague, OLIVA 791.—Records on Bookham Common, Surrey, PANGHEN 818.—Recorded from Sarek National Park, Sweden, PETTERSON 850.—Anomalies hereditary and experimental, ROSTAND 929.—On egg maturity and anomalies, ROSTAND 933.—Larval feeding mechanisms, SAVAGE, R. M. 959.—Local reaction of nervous system to temperatures and chemicals, SCHNEIDER 974.—Temperature-pulse rate curve of isolated heart, SMITH, C. L. 1027.—In Norway, SOOT-RYEN 1050.—Topography of conjunctiva tissue, STEHELKUNOV & LATISHEVA 1064.—In Norway, STØP-BOWITZ 1082.—Of Finland, SUOMALAINEN & VOPIO 1086.—Of Hanover, TENIUS 1106.—Effect of “paraoxypropiophenone” on colour of larvae, TUSQUES 1136.—Mauthner cells and insensibility to thyroxine, TUSQUES 1137.—Genetic and physiology, sex differentiation, WITSCHI 1202.—Role of water on growth in metamorphosis, WURMBACH 1222.—*R. t. temporaria* distribution in Dorset, DALTON 250.—Of Germany, voice, NEUBAUR 764.—Albinos in nature and terraria, figs., PETZSCH 851.—Records in Denmark, PFAFF 852.—Note on captive and free specimens, figs., PETZSCH 879.—On larva of N.W. Germany, RÜHMEKORF 939.—Figs., col. pl. of Britain, ecology, SMITH, M. A. 1038.

Rana tigrina, on the carotid-labyrinth, CHOWDHARY 216.—From Formosa, use in pregnancy test, CHU 217.—In brackish water, Ganges delta, SCHMIDT 969.

Rana virgatipes, on the coastal plain of Maryland, MEANLEY 696.

Rana vittigera, pregnancy tests, LAWAS 615.

Scotobleps oxyrhynchus, from Cameroons, MONARD 730.

Staurois hongkongensis, **sp. nov.**, from Tai Mo Shan, New Territories, Hongkong Colony, related to *S. ricketti*, Fieldiana Zool. 31 50 1951 p. 609 figs., POPE, C. H. & ROMER, J. D. 869.

RHACOPHORIDAE

Rhacophoridae, family suppressed and to be included in Ranidae [see Ranidae for subfamilies], LAURENT 613.

Afraxalus fulvoovittatus leptosomus, from Cameroons, MONARD 730.

Chriomantis xerampelina from Tanganyika T., LOVERIDGE 652.—*C. umbelluzianus*, of Mozambique and general distribution, coloration, etc., MANAÇAS 677.

Chrysobatrachus, **gen. nov.**, p. 376 ; *C. cupreonitens*, **sp. nov.**, from Kivu (Type from Riv. Kitadjabukwe, 2,800–2,850 m., bassin de l'Ulindi, Terr. d'Uvira), C. Africa, Rev. zool. Bot. afr. 44 1951, LAURENT, R. 612.

Hylambates cassinoides, from Cameroons, MONARD 730.—*H. maculatus* from Tanganyika T., LOVERIDGE 652.

Hyperolius benueensis, **sp. nov.**, from Banguvé and Ngaouyanga, Cameroun, Mem. Inst. franç. Afr. noire. Centre de Cameroun Sci. nat. No. 1 1951 p. 177, MONARD, A. 730.

Hyperolius burgeoni? from Cameroons, MONARD 730.

Hyperolius castaneus rhodogaster, **subsp. nov.**, from Mwana, 1,600 m. Territoire de Mwenga, Kivu, C. Africa, p. 368 ; *H. castaneus constellatus*, **subsp. nov.**, from Kivu (Type from Riv. Kitadja-bukwe, 2,800–2,850 m., bassin de l'Ulindi, Terr. d'Uvira) C. Africa, p. 369 ; Rev. zool. Bot. afr. 44 1951, LAURENT, R. 612.

Hyperolius cinctiventris, from Portuguese Guinea, description, habits, figs., MANAÇAS 676.—Of Mozambique, and general distribution, coloration, etc., MANAÇAS 677.

Hyperolius concolor, from Portuguese Guinea, description, habits, MANAÇAS 676.—*H. c. viridistriatus*, **subsp. nov.**, from Tibate and Sakdje, Cameroun, Mem. Inst. franç. Afr. noire. Centre de Cameroun. Sci. nat. No. 1 1951 p. 176, MONARD, A. 730.

Hyperolius destefanii, **sp. nov.**, from Nargi, Abyssinia, Miss. Biol. Sagan-Omo, Roma, Zool. 1 1943 p. 321 fig., SCORTECCI 986.

Hyperolius ferreirai, from Portuguese Guinea, description, MANAÇAS 676.

Hyperolius guineensis, from Portuguese Guinea, description, habits, MANAÇAS 676.

Hyperolius guttulatus picturatus, from Cameroons, MONARD 730.

Hyperolius lateralis guibi, **subsp. nov.**, from C. Africa (Type from Cyumba, 1,900–1,950 m., Terr. de Biumba, Ruanda), p. 373; *H. lateralis anthochromus*, **subsp. nov.**, from Mugeru, 1,450 m., Terr. de Ruyigi, Urundi, p. 374; *H. lateralis capnodogaster*, **subsp. nov.**, from Urundi (Type from Marais de la Tshizanie, Kinazi, 1,350 m., Terr. de Muhinga), p. 374; *H. lateralis kochi*, **subsp. nov.**, from Kivu (Type from Itula, 650 m., Terr. de Shabunda) p. 375, Rev. zool. Bot. afr. 44 1951, LAURENT, R. 612.

Hyperolius leleupi, **sp. nov.**, from Haute Luvubu, 2,550 m., Territoire d'Uvira, Kivu, C. Africa; Rev. zool. Bot. afr. 44 1951 p. 371, LAURENT, R. 612.

Hyperolius punctatissimus? of Mozambique, general distribution, coloration, etc., MANAÇAS 677.

Hyperolius taeniatus, of Mozambique, and general distribution, coloration, etc., MANAÇAS 677.

Hyperolius viridiflavus hybridus, **subsp. nov.**, from C. Africa, Ruanda (Type from Etang de la Mukura, 1,700 m., pres d'Astrida), Rev. zool. Bot. afr. 44 1951 p. 375, LAURENT, R. 612.

Hyperolius zavattarii, **sp. nov.**, from Pozzi di Gondaraba, Abyssinia, Miss. Biol. Sagan-Omo, Roma, Zool. 1 1943 p. 319 fig., SCORTECCI 986.

Kassina benueana, **sp. nov.**, from Ngaouyanga, Cameroun; Mem. Inst. franç. Afr. noire. Centre de Cameroun. Sci. nat. No. 1 p. 175, MONARD, A. 730.—*K. senegalensis* from Tanganyika T., LOVERIDGE 652.

Leptopelis argenteus from Tanganyika T., LOVERIDGE 652.—*L. palmatus*; *L. viridis*, from Cameroons, MONARD 730.

Mantidactylus granulatus, from Madagascar, and notes on habitat habits, MILLOT & GUIBÉ 724.

Megalixalus fornasinii, of Mozambique, general distribution, coloration, etc., MANAÇAS 677.—*M. f. fornasinii*, *M. brachycnemis*, from Tanganyika T., LOVERIDGE 652.—*M. tricolor*; *boettgeri*,

from Madagascar, notes on habitat habits, MILLOT & GUIBÉ 724.

Philautus, on Thailand species, SUVATTI 1087.

Rhacophorus bimaculatus, colletti, leucomyx, nigropalmatus, promimanus, of Thailand, SUVATTI 1087.—*R. (Boophis) goudoti*, notes on habitat habits, Madagascar, MILLOT & GUIBÉ 724.

SCAPHIOPIDAE

Scaphiopus hammondii hammondii of Santa Ana Mts., California, PEQUEGNAT 837.—[*Scaphiopus*] *Scaphorus hammondii intermontanus*, from Utah, CHENOWETH 208.—*Scaphiopus holbrookii holbrookii* ♂ × *Rana pipiens pipiens* ♀, and *Pseudacris nigrita triseriata* ♀, hybridization experiments, HAN-PO 447.—*S. bombifrons*, tadpoles; *S. couchii*, adults recorded from Oklahoma, BRAGG & DUNDEE 135.—*S. bombifrons*, on Tulsa Cnty., Oklahoma population, DUNDEE & BRAGG 280.—*S. bombifrons*, *S. hammondii*, on Oklahoma records, BRAGG 123.—*S. couchii*, from Texas and Mexico; *S. hurterii*, from Texas, REESE, R. W. & FIRSCHEIN 900.—*S. couchii*, fig., *bombifrons*, figs., *hammondii*, fig. col. pl., ecology, etc., adult larvae and eggs, STEBBINS 1059.—*S. hurterii*, remarks on breeding puzzle, BRAGG 122.—On tadpole aggregational phenomena, BRAGG 124.—Note on mass movement at metamorphosis, BRAGG 129.—*S. hurteri*, *bombifrons* and *couchii*, observations on dermal secretions by females suggests sexual difference, BRAGG 128.—*Spea bombifrons*, first records from Stephens and Noble Counties; tadpoles in Jefferson County, Oklahoma, BRAGG & HUDSON 136.

REPTILIA

General: Fossil.—Upper Triassic Faunas of Europe, South Africa and North America compared, COLBERT, E. H. & MOOK, C. C. 221.—Fossil in Switzerland, HESCHELER, K. & KUHN E. 477.—Phylogeny.—Evolution of vertebrae as guide to classification.—Fossil Reptiles divided into Reptiliomorpha, Theromorpha, and Sauroomorpha, HUENE, F. F. VON, 510, 512, 514.—Images des Mondes disparus, PIVETEAU, J. 863.

General : Recent.—Fauna of Assam (Manipur State), ACHARJI & KRIPALANI **8**.—List of amphibia and reptilia from Chios, Greece, ARGENTI & ROSE **41**.—The origin of snakes, BELLAIRS & UNDERWOOD **82**.—On the life habits, exotic species, development, etc., figs., col. plate, BERTIN **88**.—List of Kansas species, localities, BREUKELMAN & CLARKE **144**.—Ecological survey of Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—Herpetology of Mission Mtns., Montana, BRUNSON & DEMAREE **161**.—On the legality of restriction of type locality, DUNN & STUART **283**.—Swedish Lapland (Sorsole), GAUNTZ **384**.—Herpetofauna of Palestine, HAAS, G. **426**.—Of Tanganyika Territory, LOVERIDGE **652**.—Author's visit to N. America, specimens observed, pls., MERTENS, R., **713**.—Systematic list of South Australian Fauna, MITCHELL, F. J. **727**.—The biota of the Santa Ana Mts., California, PEQUEGNAT **837**.—List of Danish vertebrates, PFAFF **852**.—University of Illinois Field Expedition, 1949, to Texas and N.E. Mexico, REESE, R. W. & FIRSCHEIN **900**.—Of Venezuela, figs., RÖHL **920**.—Of Sagan-Omo, Abyssinia, SCORTECCI **986**.—Key to amphibians and reptiles of the Chicago area, SMITH, A. G. **1025**.—British species, figs. col. pls., SMITH, M. A. **1038**.—Herpetofauna of the Guatemalan Plateau, STUART **1084**.—Faunal list of Thailand, SUVATTI **1087**.—Check list of Solomon Id. species, TANNER **1096**.—Introduction to Jamaican reptiles, UNDERWOOD **1146**.—Iran amphibians and reptiles, and note on zoogeography, WETTSTEIN & LÖFFLER **1193**.

†CAPTORHINA

Captorhinoides valensis, **gen. & sp. nov.**, early Permian of Knox County, Texas, Fieldiana, Geol. 10 11 1951 p. 97 and p. 98 figs., OLSON, E. C. **799**.

†COTYLOSAURIA

Captorhinus ? and *Labidosaurikos* ? from Permian of Texas, OLSON, E. C. **801**.—Growth studies in *Captorhinus aguti*, OLSON, E. C. & MILLER, R. L. **803**.—*Captorhinus*, on origin of reptile astragalus, PEABODY **829**.

Diadectes, temporal region discussed and figured, OLSON, E. C. **797**.

CROCODILIA

General : Fossil.—Remains of giant crocodile in L. Cretaceous of South Tunisia, LAPPARENT, A. F. de **606**.—Vertebra and coprolites of crocodiles in Pliocene and Pleistocene of Madagascar, MANGUIN, E. **678**.

General : Recent.—Crocodile oil and use in cosmetics, BENNETT AND OTHERS **84**.—Unusual associations, enemies, BRELSFORD **142**.—Of the Cameroons, MONARD **730**.

Alligator, development of medial wall of forebrain, KÄLLÉN **545**.—*A. mississippiensis*, physiology of respiration, figs., BOELAERT **103**.—Investigation on suitability for biochemical study, COULSON, HERNANDEZ & BRAZDA **235**.—Variation in blood constituents after feeding, COULSON, HERNANDEZ & DESSAUER **236**.—Pituitary, circulation and nerves, GREEN **409**.—Salt water association in Florida, SCHMIDT **969**.

Craigator, on generic status, figs., DERANIYAGALA **262**.

Caiman latirostris, from Brazil, SCHMIDT & INGER **973**.—*C. sclerops*, of Venezuela, RÖHL **920**.

Crocodylus acutus, observations on young specimen in captivity, DUTT **287**.—*C. acutus*, *C. rhombifer*, salt or brackish water association, SCHMIDT **969**.—†*C. bugtiensis*, from Bugti Bone beds are basal Miocene in age, EAMES, F. E. **293**.—*C. cataphractus*, salt water association, SCHMIDT **969**.—*C. cataphractus*, *C. vulgaris*, from Cameroons, MONARD **730**.—†*C. (Gariolosuchus) eggenburgensis*, lower jaw fragment from middle Miocene of Yugoslavia, PEJOVIĆ, D. **830**.—*C. intermedius* ; *C. acutus*, fig., of Venezuela, RÖHL **920**.—*C. niloticus*, extinct in Palestine, HAAS, G. **426**.—In sea, SCHMIDT **969**.—From Sagan and Lake Rudolf, SCORTECCI **986**.—*C. palustris*, *C. porosus*, notes on habits, folklore, enemies, use by man, length, full ecology, in India, MOSES **736**.—*C. porosus*, note on Australian specimens, MACINNES **667**.—In salt water, SCHMIDT **969**.—Solomon Ids., records, TANNER **1096**.—*C. porosus*, *siamensis*, of Thailand, SUVATTI **1087**.

Vertebrae of *Diplocynodon*-like form from Tertiary of Preschen Bohemia, LIEBUS A. 637.

†*Gavialis breviceps, curvirostris*, from Bugti Bone beds are basal Miocene in age, EAMES, F. E. 293.—*G. gangeticus*, ecological notes, folklore, etc. in India, MOSES 736.

†*Jacaretenga ? praecursor* Rusconi, tooth from Miocene of Paraná, RUSCONI, C. 940.

Osteolaemus tetraspis, first record in Uganda, photo., PERKINS, E. A. T. 842.

†*Protosuchus*, ancestral crocodilian from Dinosaur Canyon Sandstone of Arizona. Very fully described and discussed, COLBERT, E. H. & MOOK, C. C. 221.

Tomistoma schlegeli of Thailand, SUVATTI 1087.

†DIADECTIDAE

Temporal region of *Diadectes* discussed and figured, OLSON, E. C. 797.—*Waggoneria knoxensis*, **gen. & sp. nov.**, Seymouriamorph from early Permian, Knox County, Texas, Fieldiana, Geol. 10 11 1951 p. 90 fig., OLSON, E. C. 798.

†ICHTHYOPTERYGIA

Ichthyosaur vertebra from Lower Lias of St. Wolfgang, Upper Austria, ZAPFE, H. 1229.

†ICHTHYOSAURIA

Blezingeria, **gen. nov.**, for *Nothosaurus ichthyospondylus*, E. Fraas, middle Trias of Germany. *Blezingeria ichthyospondyla* referred to Colymbospondylidae; Neues. Jb. Geol. Abh. 94 I 1951 p. 86, HUENE, F. F. VON 515.—*Eurhinosaurus longirostris*, new discovery of, in Lias of Holzmaden, HUENE, F. F. VON 513.

†ORNITHISCHIA

Environment and adaptations of certain Dinosaurs, COLBERT, E. H. 220.—Brief account of dinosaurs, SWINTON, W. E. 1089a.

†ORNITHISCHIA

Hadrosaurs had no breathing tube, WIMAN, C. 1200.

Iguanodon teeth reported from South Tunisia, LAPPARENT, A. F. DE 606.—History of the type specimen of *I. mantelli*, SWINTON, W. E. 1090.

Complete skeleton of *Leptoceratops gracilis* Brown from Upper Edmonton of Alberta, STERNBERG, C. M. 1073.

Libycosaurus petrocchi **gen. & sp. nov.** for so-called Iguanodont of Sahara, Cirenaica (Type skull appears to be ? Anthracothere (Mammalia) of post-Miocene age), Riv. Biol. Colon. 8 1947 p. 26, BONARELLI, G. 110.

Omosaurus cf. lennieri in Upper Jurassic of Portugal, LAPPARENT, A. F. DE & ZBYSZEWski, G. 607.

Ceratopsia. New reconstructions of *Pentaceratops fenestratus* and *Chasmosaurus belli*, WIMAN, C. 1200.

†PELYCOSAURIA

Dimetrodon cf. gigashomogenes and *Casea?* in Permian of Texas, OLSON, E. C. 801. *Dimetrodon gigashomogenes*, *D. major*, *Casea* and *Edophosaurus* in Permian of Texas, OLSON, E. C. 796.

†PTEROSAURIA

Pterodactylus kochi and *P. antiquus*. Excellent Solenhofen specimens in Senckenberg Museum descr. and figd., HUENE, F. F. VON 518.—Studies on *Pterodactylus scolopaciceps* and *Rhamphorhynchus gemmingi* and note on the web of *Pterodactylus comoranus* and *Anurognathus*, KLINGHARDT, F. 572.

Rhamphorhynchoid teeth from Middle White-Jura B of Germany, BOOMGAARD, W. H. 112.

RHYNCHOCEPHALIA

†Prefrontal and frontal fragment of ? Rhynchocephalian from Trias of Germany, HUENE, F. F. VON 516.—General evolution survey, GREGORY, W. K. 412.

Sphenodon, on the kidney, FISK & TRIBE 337.—*S. punctatum*, sexual physiology, BULLOUGH 167.—Semi-popular notes, figs., on specimens in Vancouver Museum, ENGEL-BAIERSDORF 305.—Popular article, photo., pineal eye, HILL 482.—Morphological value of photo-receptors in eye; Nerve organ-

isation of the eye; Eye structure, VILTER **1166**, **1167**, **1168**.

†SAUROPTERYGIA

Placodont tooth from high dolomite of the Tyrol, MUTSCHLECHNER, G. **746**.—Development of the forelimb in Nothosaurs, Placodonts and Plesiosaurs, HUENE, E. VON **509**.—Tibia of a Pachypleurosaurid from Lower Bundsandsstein of Braunschweig. HUENE, F. F. VON **517**.

Elasmosaurus morgani **sp. nov.**, Eagle Ford Shale (U. Cretaceous) of Texas: Elasmosauridae discussed; Fondren Sci. Ser. No. 1 1949 p. 7 fig., WELLES, S. P. **1186**.—Reconstructions and habits of Plesiosaurs: Occurrence of *Elasmosaurus morgani*, SHULER, E. W. **1004**.

Metanotosaurus nipponicus **gen. & sp. nov.**; from Niyagi Prefecture, Japan, Proc. Japan. Acad. **24** 10 1948 p. 36, YABE, H. & SHIKAMA, T. **1223**.

SAURISCHIA

Environment and Adaptations of certain dinosaurs, COLBERT, E. H. **220**.—Sauropod caudal vertebrae in Albian of Pays de Bray, France, LAPPARENT, A. F. DE **605**.—Sauropod remains from Cretaceous of South Morocco, LAVOGAT, R. **614**.—Brief account of Dinosaurs, SWINTON, W. E. **1089**.

Astrodon, *Brachiosaurus* and *Brontosaurus* discovered in Upper Jurassic of Portugal, LAPPARENT, A. F. DE & ZBYSZEWSKI, G. **607**.

Megalosaurus discovered in Upper Jurassic of Portugal, LAPPARENT, A. F. DE & ZBYSZEWSKI, G. **607**.—*M. saharicus* and Caudal vertebrae of *Titanosaurus* teeth in lower Cretaceous of South Tunisia, LAPPARENT, A. F. DE **606**.

Polyodontosaurus grandis Gilmore referred to Tröodontidae, STERNBERG, C. M. **1074**.

SQUAMATA

SAURIA

General: Recent.—Lizards of Para, AMARAL **23**.—On some type localities restricted by Smith & Taylor, DUNN & STUART **284**.—Evolution

survey, GREGORY, W. K., **412**.—Of the Cameroons, MONARD **730**.—University of Illinois Expedition to Mexico and S. Texas, SMITH, P. W. & BURGER **1044**.

AGAMIDAE

Acanthosaura capra, *cornata*, of Thailand, SUVATTI **1087**.

Agama agama notes on Cameroon form, *A. A. benueensis*, **subsp. nov.** from Bénoué; Mem. Inst. franç. Afr. noire. Centre de Cameroun, Sci. nat. No. 1 1951 p. 131, MONARD, A. **730**.—*A. agama* ssp., from Abyssinia, fig., *Agama* sp., from Caschei, Abyssinia, SCORTECCI **986**.—*A. agilis agilis*; *A. a. isolepis*, from Iran, WETTSTEIN & LÖFFLER **1193**.—*A. bibronii*, from Tibesti, Libya, SCORTECCI **985**.—*A. cyanogaster* from Tanganyika, LOVERIDGE **652**.—*A. microlepis*, from Iran, WETTSTEIN & LÖFFLER **1193**.—*A. mossambica mossambica* from Tanganyika, LOVERIDGE **652**.—*A. mutabilis*, from Tibesti, Libya, SCORTECCI **985**.—*A. m. sinaita*, from Iran, WETTSTEIN & LÖFFLER **1193**.—*A. pallida*; *persica*; *sinaita*; *flavimaculata*; *stellio*; *s. picea*, in Palestine, HAAS, G. **426**.—*A. ruderata*; *rupta*; *stellio stellio*, *A. s. picea*, from Iran, WETTSTEIN & LÖFFLER **1193**.—*A. tuberculata*, from Nepal, 7,000 ft., SMITH, M. A. **1041**.

Aphaniotis fusca, of Thailand, SUVATTI **1087**.

Calotes, on 5 Thailand species, SUVATTI **1087**.—*C. calotes*, on egg-laying behaviour and situations, TAYLOR, E. H. **1100**.—*C. mystaceus*, first record from Assam (Manipur State); *C. versicolor*, from Manipur State, Assam, ACHARJI & KRIPALANI **8**.—*C. versicolor*, first record from Nepal, SMITH, M. A. **1041**.

Draco, on 12 Thailand species, SUVATTI **1087**.

Gonioccephalus, on 7 Thailand species, SUVATTI **1087**.—*G. godeffroyi*, Solomon Ids., records, TANNER **1096**.—*G. semperi*, on egg laying situations, TAYLOR, E. H. **1100**.

Japalura tricarinata from Nepal, 9,500 ft., SMITH, M. A. **1041**.

Lirolepis belliana, of Thailand, SUVATTI **1087**.

Lyriocephalus scutatus, on egg-laying behaviour and snout development, TAYLOR, E. H. 1100.

Phrynocephalus scutellatus Oliv. = *olivieri* D. & B., *P. helioscopus*; *P. maculatus*, from Iran, WETTSTEIN & LÖFFLER 1193.

Physignathus concincinus, of Thailand, SUVATTI 1087.

Uromastix acanthinurus, on captive specimen, figs. HOCH 490.—From Tibesti, Libya, SCORTECCI 985.—*U. aegyptia*, in Palestine, HAAS, G. 426.—*U. geyri*, on young type specimens, MÜLLER, L. 740.

AMPHISBAENIDAE

Generic revision and systematic arrangement :—

Amphisbaeninae, **subfam. nov.** p. 113, *Bipes*, *Blanus*, *Cadea*, *Amphisbaena*, *Diphalus*, *Bronia*, *Loveridgea*, **gen. nov.**, p. 114, *Geocalamus*, *Mesobaena*, *Anopsibaena*, *Baikia*, *Ancyloranium*, *Cynisca*, *Shrevea*, **gen. nov.**, p. 115, *Placogaster*, *Chirindia*,

Rhineurinae, **subfam. nov.**, p. 116. †*Jepsibaena*, **gen. nov.**, p. 116, †*Ototriton*; *Rhineura*, †*Pseudorhineura*, **gen. nov.**, p. 116, †*Hyporhina*, *Monopeltis*, *Tomuropeltis*, *Leposternon*, *Aulura*,

Trogonophinae, **subfam. nov.** p. 121.

Trogonophis, *Pachycalamus*, *Agamodon*, †*Crythiosaurinae*, **subfam. nov.**, p. 122, *Crythiosaurus*.

Incertae sedis.

†*Platyrhachis*, †*Omoiotyphlops*,

†“*Glyptosaurus*”.

Key to recent subfamilies and genera, skulls figd., *Herpetologica*, San Diego, 73 1951, VANZOLINI 1154.

†Amphisbaenids of Oligocene of N. America: *Hyporhina galbreathi*, **sp. nov.** p. 532; *Rhineura amblyceps*, **sp. nov.**, p. 543; *R. hibbardi*, **sp. nov.**, p. 539; *R. wilsoni*, **sp. nov.**, p. 548; *Gilmoreaia attenuatus*, **gen. & sp. nov.**, p. 527, described. *Crythiosauridae* is proposed for Mongolian genus *Crythiosaurus*, p. 521; *Univ. Kansas sci. Bull.* 34 1 1951, TAYLOR, E. H. 1103.

Amphisbaena cubana, from Cuba, ALOYO 17.—*A. fuliginosa*, fig., of Venezuela, RÖHL 920.—*A. fuliginosa*,

alba, *subocularis*, *brachyura*, *heathi*, *spixi*, *slevini*, from Brazil, SCHMIDT & INGER 973.—*A. fuliginosa*, on geographical distribution and differentiation, descriptions and figs. of *f. fuliginosa*; *f. varia*; *f. bassieri*, **subsp. nov.**, p. 61; Roaboya, Loreto, Peru; *f. amazonica*, **subsp. nov.**, p. 62, Manaus, Amazonas Brasil; *f. wiedi*, **subsp. nov.**, p. 62, Santa Maria, Baia, Brasil, *Bull. Mus. comp. Zool. Harvard* 106 1951, VANZOLINI 1155.—*A. ionidesii* head fig., from Tanganyika T., *A. vandami* revised as race of *violacea* by FitzSimons is correct, LOVERIDGE 652.

Blanus strauchii, very improbably in Palestine, HAAS, G. 426.

Leposternon microcephalum, from Queimada Grande Id., São Paulo, Brazil, with ecological notes, HOGE 497.—*L. polystegoides* from Brazil, SCHMIDT & INGER 973.

Monopeltis jugularis from the Cameroon, MONARD 730.

Rhineura floridana, presence of eyes and notes on habits, NEILL 756.

ANELYTROPIDAE

Feylinia currori from the Cameroons, MONARD 730.

ANGUIDAE

Abronia taeniata graminea, figures of young and notes on birth, WERLER 1188.—*A. vasconcelosii*, STUART 1084.

Anguis fragilis, protein catabolism, ANTONINO 39.—Experimental development of early embryos *in vitro*, BELLAIRS, R. 83.—Distribution in Dorset, DALTON 250.—From Sorsele, Swedish Lapland, GAUNITZ 384.—On ear development, HOCHSTETTER 491.—In Reims area, France, MENU 704.—Bookham Common, Surrey records, PANCHEN 818.—Records in Denmark, PFAFF 852.—Figs., col. pls., of Britain, ecology, SMITH, M. A. 1038.—Size record 460 mm. total length, of British specimen, SMITH, M. A. 1040.—In Norway, SOOT-RYEN 1050.—Of Finland, SUOMALEINEN & VOPIO 1086.—Of Hanover TENUS 1106.—Variation, examination, *A. fragilis fragilis*, *A. f. colchicus*, *A. f. peloponnesiacus*, three geographic subspecies, figs., WERMUTH 1190.—*A. fragilis colchicus*, from Iran, WETTSTEIN & LÖFFLER 1193.

Barisia gadovii gadovii, from Guerrero, Mexico, HALL, C. W. 435.—*B. moreleti fulva*, *B. m. rafaeli*, from Guatemalan Plateau, STUART 1084.

Celestus, on specific characters, *C. curtissi*, **sp. nov.**, from Trou Forban, Haiti, Copeia 1951 p. 68 figs., GRANT, C. 408.—*C. hancocki*, marine association, SCHMIDT 969.

Diploglossus hancocki, marine association and feeding, SCHMIDT 969.—*D. lessonae*, from Brazil; *D. tenuifasciatus* Parker is a synonym, SCHMIDT & INGER 973.

Elgaria kingii, two recognizable subspecies; *E. k. kingii*, range C. & S. W. Chihuahua; *E. k. nobilis*, range C. & S. Arizona, S.W. Mexico, TIHEN 1113.

Gerrhonotus coeruleus principis, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—*G. lioccephalus*, summary of subspecies; *G. lioccephalus loweryi*, **subsp. nov.**, from Xilitla region, San Luis Potosi, Mexico, Trans. Kansas Acad. Sci. 51 1948 p. 302, TIHEN 1114.—*G. l. infernalis*, figures of young, notes on eggs, WERLER 1188.—*G. multicarinatus webbi* of Santa Ana Mts., California, PEQUEGNAT 837.

Opisaurus apodus, in Palestine, HAAS, G. 426.—*O. ventralis*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Wisconsin additional records, DICKINSON 269.—*O. v. ventralis*, in Kansas, BREUKELMAN & CLARKE 144.—From Virginia, WERLER & MCCALLION 1189.

BIPEDIDAE

see under AMPHISBAENIDAE

CHAMELEONIDAE

Brookesia, key to African species; *Brookesia ionidesi*, **sp. nov.**, from Kilwa, S. Prov., Tanganyika T., and Liwale, S.P., Bull. Mus. comp. Zool., Harvard 106 1951 p. 179, LOVERIDGE, A. 652.—*B. stumpffi*, note on captive specimen, photo., MERTENS, R. 711.

Chamaeleon, on colour changing, figs., ANON. 3.—Development of medial wall of forebrain, KÄLLÉN 545.—Popular article, photographs of tongue in action, WALKER & KIRKPATRICK 1175.—*Chamaeleon* sp., photographs showing moulting process, KIRK 564.

Chamaeleon bitaeniatus bitaeniatus, *C. gracilis*, Abyssinia, SCORTECCI 986.—*C. chamaeleon*, in Palestine, HAAS, G. 426.—*C. c. chamaeleon*, from Iran, WETTSTEIN & LÖFFLER 1193.—*C. cristatus*, from Cameroons; *C. gracilis* and *parvilobus*, two species from Cameroons hardly indistinguishable, MONARD 730.—*Chamaeleo johnstoni crenulatus*, **subsp. nov.**, from Kivu (type locality, May ya Moto, 2,450 m.) C. Africa, Rev. Zool. Bot. afr. 44 1951 p. 360, LAURENT, R. 612.—*C. senegalensis*, from Cameroons; *C. senegalensis tibatiensis*, **var. nov.**, from Tibati, Cameroons, Mem. Inst. franç. Afr. noire. Centre de Cameroun. Sci. nat. No. 1 1951 p. 141, MONARD, A. 730.

Microsaura pumila, on cranial morphology, figs., ENGELBRECHT 306.

Rampholeon platyceps, on cranial morphology, figs., FRANK 356.

CORDYLIDAE

Cordylus cataphractus, observations on captive specimens, ROSENBERG 928.—*C. cordylus tropidosternum*, from Tanganyika T., LOVERIDGE 652.

†CRYTHIOSAURIDAE

†Crythiosauridae is proposed for Mongolian genus *Crythiosaurus*; Univ. Kansas Sci. Bull. 34 1 1951 p. 521, TAYLOR, E. H. 1103.

DIBAMIDAE

Dibamus novae-guinea, of Thailand, SUVATTI 1087.

GECKONIDAE

On pupil shape and systematic and evolution implications, UNDERWOOD 1144.

Aeluroscalabotes felinus, of Thailand, SUVATTI 1087.

Agamura persica, from Iran, WETTSTEIN & LÖFFLER 1193.

Alcophylax (= *Bunopus*) *tuberculatus*, from Iran, WETTSTEIN & LÖFFLER 1193.

Aristelliger, on eye retina, UNDERWOOD 1145.—*A. praesignis*, from Jamaica, UNDERWOOD 1146.

Bunopus tuberculatus, in Palestine, HAAS, G. 426.

Ceramodactylus doriae, in Palestine, HAAS, G. 426.

Cnemaspis affinis siamensis, of Thailand, SUVATTI 1087.

Coleonyx brevis, notes on eggs, WERLER 1188.—*C. elegans elegans*, from Veracruz, S.W. of Tihuatlán the northernmost locality record, SMITH, P. W. & BURGER 1044.

Cosymbotus craspedotus, platyurus, of Thailand, SUVATTI 1087.

Diplodactylus strophurus, spinigerus, taxonomic notes, BRAZENOR 141.—*D. lepidopygus* Tsch. = *Phyllodactylus gerrhopygus* Wiegman, in Peru, TITSCHACK 1119.

Discodactylus [*Phyllodactylus*] *phacophorus*, in Peru, TITSCHACK 1119.

Gehyra oceanica, from Arno Atoll, Marshall Ids., ecology notes, MARSHALL 686.—*G. oceanica*, from Admiralty Ids., Los Negros, TANNER 1095.—*G. oceanica mutilata*, from Solomon Ids., TANNER 1096.

Gekko gekko, occurrence in Tung Chung on Lan Tao Id., Hong Kong Colony, ROMER, J. D. 922.—*G. gekko*; *monarchus, smithi*, of Thailand, SUVATTI 1087.—*G. swinhonis*, habits, feeding and living in captivity, experiments and observations on caudal autotomy and regeneration, BORING, CHANG & CHANG 115.—*G. vittatus*, Solomon Ids., records, TANNER 1096.

Gonatodes, on eye retina, UNDERWOOD 1145.—*G. alboangularis*, of Venezuela, RÖHL 920.—*G. fuscus*, from Cuba, ALOYO 17.—From Jamaica, UNDERWOOD 1146.—*G. humeralis*, from Bolivia and Brazil, SCHMIDT & INGER 973.—*G. vittatus*, on variation, sexual, in Venezuela, MARCUZZI 685.—*G. vittatus*, photo; *G. fuscus*, *G. albogularis*, from Venezuela, MARCUZZI 684.

Gymnodactylus, on 7 Thailand species, SUVATTI 1087.—*Gymnodactylus* sp. ?, *G. agamuroides*, from Iran, WETTSTEIN & LÖFFLER 1193.—*G. coleonyx*, *G. scapularis*, on type localities, DUNN & STUART 284.—*G. gekkoides*, from Brazil, SCHMIDT & INGER 973.—*G. heterocercus heterocercus*, from Iran, WETTSTEIN & LÖFFLER 1193.—*G. kotschy orientalis*, in Palestine, HAAS, G. 426.—*G. kotschy syriacus*, from Iran, WETTSTEIN & LÖFFLER 1193.—*G. pelagicus*, from

Arno Atoll, Marshall Ids., ecology notes, MARSHALL 686.—*G. pelagicus*; *louisianensis* from Solomon Ids., TANNER 1096.—*Gymnodactylus serpensinsula*, **sp. nov.**, from Serpent Id., off N.E. coast of Mauritius, Proc. biol. Soc. Wash. 64 1951 p. 91, LOVERIDGE, A., 651.

Hemidactylus, on perilymphatic system, fig., TUMARKIN 1134.—*Hemidactylus* sp., from Abyssinia, SCORTECCI 986.—List of Cameroon species; *H. fasciatus, brooki*, notes on, MONARD 730.—*H. brookii*, from Cuba, ALOYO 17.—*H. brooki angulatus* from Cape Verde Ids. (Fogo, S. Tiago), DEKEYSER & VILLIERS 258.—*H. bouvieri chevalieri* from Cape Verde Ids. (Sal), DEKEYSER & VILLIERS 258.—*H. frenatus*, notes on neotropical population, Acapulco, Mexico, EDGREN 294.—*H. frenatus, garnoti, platyurus*, of Thailand, SUVATTI 1087.—*H. isolepis* from El Dire (Tertale) Abyssinia, SCORTECCI 986.—*H. mabouia*, from Queimada Grande Id., São Paulo, Brazil, with ecological notes, HOGE 497.—From Tanganyika, LOVERIDGE 652.—Of Venezuela, RÖHL 920.—From Brazil, SCHMIDT & INGER 973.—*H. turcica*, in Palestine, HAAS, G. 426.—*H. t. turcicus*, type locality should be restricted to Turkey, not Egypt, NEILL 757.—From bromelia in Florida, NEILL 759.—From Iran, WETTSTEIN & LÖFFLER 1193.

Hemiphyllodactylus typus, from Arno Atoll, Marshall Ids., ecology notes, MARSHALL 686.—*H. t. typus*, of Thailand, SUVATTI 1087.

Lepidodactylus ceylonensis, of Thailand, SUVATTI 1087.—From Arno Atoll, Marshall Ids., ecology notes, MARSHALL 686.—*L. lugubris*; *guppyi*; *woodfordii*, from Solomon Ids., TANNER 1096.

Lygodactylus picturatus picturatus from Tanganyika, LOVERIDGE 652.—From Abyssinia, SCORTECCI 986.

Oedura karroica, cranial anatomy, figs., WEBB 1182.

Pachydactylus bibronii turneri, from Tanganyika, ♂ record length 177 mm., LOVERIDGE 652.

Palmatogekko rangei, cranial anatomy, figs., WEBB 1182.

Peropus mutilatus, of Thailand, SUVATTI 1087.

Phyllodactylus elisae, from Iran, WETTSTEIN & LÖFFLER 1193.—*P. gerrhopygus*, in Peru, TITSCHACK 1119.—*P. mülleri*, from Venezuela, MARCUZZI 684.—*P. siamensis*, of Thailand, SUVATTI 1087.

Pristurus flavipunctatus guweirensis, in Palestine, HAAS, G. 426.

Pseudogekko shebae, from Solomon Ids., TANNER 1096.

Ptychozoon horsfieldii, *kuhli*, *lionotum*, of Thailand, SUVATTI 1087.

Ptyodactylus hasselquistii, caudal ribs, fig., EL-TOUBI & KHALIL 304.—*P. hasselquistii*; *P. h. puisieuxi*, in Palestine, HAAS, G. 426.—*P. lobatus*, from Tibesti, Libya, SCORTECCI 985.

Sphaerodactylus, on eye retina, UNDERWOOD 1145.—*S. richardsoni*; *S. r. gossei*; *S. parkeri*; *S. argus*; *S. a. henriquesi*; *S. oxyrrhinus*; *S. goniorhynchus*, from Jamaica, UNDERWOOD 1146.—*S. torrei*, *S. notatus*, from Cuba, ALOYO 17.

Stenodactylus sthenodactylus; *grandiceps*; in Palestine, HAAS, G. 426.—*Stenodactylus stenodactylus zavattarii* subsp. nov., from Elolo, Abyssinia, Miss. Biol. Sagan-Omo, Roma, Zool. 1 1943 p. 294, SCORTECCI 986.

Tarentola annularis, caudal ribs, fig., EL-TOUBI & KHALIL 304.—*T. cubana*, from Cuba, ALOYO 17.—*T. delalandei delalandei* from Cape Verde Ids. (S. Antao, S. Vicente), DEKEYSER & VILLIERS 258.—*T. ephippiata*, from Cameroons, MONARD 730.—*T. mauritanica*, rate of hypertrophy of nerve cells, BAFFONI 51.—From Tibesti, Libya, SCORTECCI 985.—*T. mauritanica angustumentalis*, *T. delalandei*, *T. d. boettgeri*, from Canary Ids., KREFFT 579.

Thecadactylus rapicauda, from Venezuela, MARCUZZI 684.—From Bolivia, SCHMIDT & INGER 973.

Tropicolotes steudneri, *nattereri*, in Palestine, HAAS, G. 426.

GERRHOSAURIDAE

Gerrhosaurus nigrolineatus nigrolineatus, from Tanganyika T., LOVERIDGE 652.

HELODERMIDAE

Heloderma suspectum, observations on a captive specimen, growth, food, habits, DURHAM 285.—On food and egg

laying, HENSLEY 468.—Distribution in New Mexico, chart, KOSTER 577.

IGUANIDAE

†Remains of ? Iguanidae in Miocene of Colombia, SAVAGE, D. E. 957.

Amblyrhynchus cristatus, salt water association, SCHMIDT 969.

Anolis, on head segmentation in embryos, HAMLETT 443.—On eye retinas, UNDERWOOD 1145.—Of Jamaica; species mentioned, *A. sagrei*; *A. lineatopus*; *A. l. coxi*; *A. l. neckeri*; *A. garmani*; *A. grahami*; *A. g. iodurus*; *A. opalinus*; notes on habits, figs., UNDERWOOD 1146.—*A. agassizii*, on marine association, SCHMIDT 969.—*A. capito*; *A. carneus*, on type locality, DUNN & STUART 284.—*A. carolinensis*, effects of antithyroid compounds, ADAMS & CRAIG 9.—From Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Pituitary, circulation and nerves, GREEN 409.—In Florida mangrove swamps, SCHMIDT 969.—*A. carolinensis*, from Texas; *A. sericeus*, from Veracruz, field notes, SMITH, P. W. & BURGER 1044.—*A. carolinensis carolinensis*, report on ability to parachute, OLIVER 793.—*A. c. carolinensis*, *A. sagrei stejnegeri*, from bromelia in Florida, NEILL 759.—*A. crassulus crassulus*, from Guatemalan Plateau, STUART 1084.—*A. equestris*; *A. porcatus*; *A. allogus*; *A. alutaceus*; *A. sagrei*; *A. cyanopleurus*?; *A. homolechis*; *A. angusticeps*?; *A. argenteolus*; *A. argillaceus*, from Cuba, ALOYO 17.—*A. humilis uniformis*, on type locality, DUNN & STUART 284.—From Chiapas, Mexico, SMITH, P. W. & H. M. 1046.—*A. laeiventris*, from Guatemalan Plateau, STUART 1084.—*A. liogaster*, male and females from Omilteme, Guerrero, SHANNON 998.—*A. nannodes*; *A. panamensis*; *A. petersii bivittatus*, on type locality, DUNN & STUART 284.—*A. petersii*, from Mirador, Mexico, SHANNON 998.—*A. porgatus*, on food, OTERO 813.—*A. sericeus*, colour notes, specimens from Oaxaca, SHANNON 998.—*A. sulcifrons*, on type locality, DUNN & STUART 284.

Basiliscus vittatus, collecting under bridges at night, CONANT 227.

Chamaeleolis chamaeleonides, from Cuba, ALOYO 17.

Corytophanes hernandesii, from Veracruz, extends range, SMITH, P. W. & BURGER 1044.

Crotaphytus collaris, remarks on systematics; *C. c. auriceps*, **subsp. nov.**, from $3\frac{1}{2}$ m. N.N.E. Dewey, west side of Colorado R., Grand County, Utah, Trans. Kansas Acad. Sci. 54 4 1951 p. 553, FITCH & TANNER 340.—*C. c. collaris*, in Kansas, BREUKELMAN & CLARKE 144.—*C. reticulatus*, feeding in captivity on *Cnemidophorus gularis*, KLEIN 569.—From Mexico, SMITH, P. W. & BURGER 1044.—Notes on eggs, WERLER 1188.—*C. wislizeni wislizeni*, *C. collaris baileyi*, coloration of specimens from lava country, Mexico, LEWIS 633.

Ctenosaura acanthura, biochemical study, HERNANDEZ & COULSON 472.—From Veracruz, SMITH, P. W. & BURGER 1044.—*C. pectinata*, field study of social behavior, EVANS, L. T. 311.

Cyclura, of Jamaica, UNDERWOOD 1146.—*C. cornuta*, observations on osteo-chondro-fibroplastic tumours, RODHAIN 918.—*C. macleayi*, from Cuba, ALOYO 17.—Observations on habits, BUIDE 166.—Photograph, PRIETO 878.

Holbrookia maculata maculata, new record Roswell, New Mexico, BUNDY 168.—In Kansas, BREUKELMAN & CLARKE 144.—*Holbrookia propinqua piperata*, **subsp. nov.**, from Etiopa, S. of Tecolutla, Veracruz, p. 167; *H. texana*, from Mexico, Trans. Kansas Acad. Sci. 53 1950, SMITH, P. W. & BURGER 1044.—*H. texana*, territory and display, EVANS, L. T. 314.—New method on collecting, KLEIN 570.—Systematics, natural history, geographic ranges of subspecies; *H. texana scitula*, **subsp. nov.**, from Canada del Oro, 16 mls. N. of Tucson, Prima Co., Arizona, p. 8; *H. t. reticulata*, **subsp. nov.**, from Pilaes, Sonora, p. 11, Occ. Pap. Mus. Zool., Michigan No. 537 1951, PETERS, J. A. 847.

Hoplocercus spinosus, note on habits, MERTENS, R. 707.—Natural history, photographs, SICK 1007.

Iguana iguana, photo., from Venezuela, MARCUZZI 684.—Fig., of Venezuela, RÖHL 920.—*I. iguana iguana*, from Bolivia and Brazil, SCHMIDT & INGER 973.—*I. i. rhinolopha*, biochemical study, HERNANDEZ & COULSON 472.—From Mexico, northern record from

Atlantic side of Mexico, Laguna de Tamiahua, SMITH, P. W. & BURGER 1044.

Leiopcephalus arenarius, in Peru TITSCHACK 1119.—*L. carinatus coryi*, territory and display, EVANS, L. T. 313.—*L. carinatus*; *L. cubensis*; *L. raviceps*; *L. macrophus*, from Cuba, ALOYO 17.

Liolaemus, study on evolution, ecotypic and autotypic characters, HELLMICH 462.—In Patagonia, KRIEG 581.—*L. altissimus altissimus*, on limb regeneration, fig., HELLMICH 461.—*L. pantherinus walkeri*, of Peru, TITSCHACK 1119.

Phrynosoma, on generic name; request to Int. Comm. on Zool. nomenclature that *Phrynosoma* Wieg., 1828, with *Lacerta orbicularis* Linn. 1766 as type species be validated, SMITH, H. M. & REEVE 1035.—*P. cornutum*, in Kansas, BREUKELMAN & CLARKE 144.—On spermatogenesis, CAVAZOS 196.—From Texas, SMITH, P. W. & BURGER 1044.—*P. coronatum blainvillii* of Santa Ana Mts., California, PEQUEGNAT 837.—*P. douglasii hernandesii*, from Arizona, CHENOWETH 208.—*P. d. douglassii*, note on specimen in Jefferson Cnty., Oregon, young, habitat, PIMENTEL 857.—*P. m'callii*, study of osteology and musculature as indication of systematic position; considered advisable to retain in present genus, figs., NORRIS & LOWE 775.—*P. modestum*, from New Mexico, CHENOWETH 208.—*P. schmidti* Barbour, figs., now considered a distinct species from *blainville*; *P. blainville nelsoni* Schmidt, also distinct, TINKHAN 1116.

Platynotus semitaeniatus, from Brazil, SCHMIDT & INGER 973.

Plica plica, from Venezuela, MARCUZZI 684.—From Bolivia, SCHMIDT & INGER 973.

Polychrus acutirostris, from Brazil, SCHMIDT & INGER 973.—*P. marmoratus*, of Venezuela, RÖHL 920.—*P. marmoratus marmoratus*, from Venezuela, MARCUZZI 684.

Proctotretus pectinatus, on captive specimen, photo., OCKERT 778.

Sceloporus cyanogenys, collecting under bridges at night, CONANT 227.—*S. graciosus vandenburgianus* of Santa Ana Mts., California, PEQUEGNAT 837.—

S. graciosi[u]s *graciosi*[u]s; *S. magister magister*; *S. undulatus elongatus*; from Utah; *S. u. tristichus*; from Utah and New Mexico, CHENOWETH 208.—*S. magister magister*, coloration of specimens from lava country, Mexico, LEWIS 633.—*S. malachiticus smaragdinus*, *S. variabilis olloporus*, from Guatemalan Plateau, STUART 1084.—*S. occidentalis biseriatus* of Santa Ana Mts., California, PEQUEGNAT 837.—*S. olivaceous*, *S. serrifer pliopus*; *S. grammicus microlepidotus*; *S. spinosus spinosus*, *S. variabilis marmoratus*; *S. v. variabilis*; all from Mexico; *S. undulatus hyacinthinus*, from Texas, SMITH, P. W. & BURGER 1044.—*S. orcutti* of Santa Ana Mts., California, PEQUEGNAT 837.—*S. scalaris scalaris*, from El Salta, Durango, SHANNON 998.—*S. spinosus apicalis*, **subsp. nov.**, from 10 miles S.W. of Miahuatlán, Oaxaca, Mexico; Proc. biol. Soc. Wash. 64 1951 p. 101, SMITH, P. W. & H. M. 1045.—*S. spinosus caeruleopunctatus* from Santa Maria Albarradas, Oaxaca, SHANNON 998.—*S. squamosus*, on type locality, DUNN & STUART 284.—*S. teapensis*, from Chiapas, Mexico, SMITH, P. W. & H. M. 1046.—*S. undulatus garmani*, in Kansas, BREUKELMAN & CLARKE 144.—*S. undulatus hyacinthinus*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From Virginia, WERLER & MCCALLION 1189.—*S. variabilis variabilis*, *S. grammicus microlepidotus*, *S. t. torquatus*, notes on embryos and birth, WERLER 1188.

Stenocercus roseiventris, *S. crassicaudatus*, of Peru, TITSCHACK 1119.

Tropidodactylus onca, from Venezuela, MARCUZZI 684.

Tropidurus hispidus, from Brazil, SCHMIDT & INGER 973.—*T. torquatus hispidus*, photo., from Venezuela, MARCUZZI 684.—*T. peruvianus araucanus*, of Peru, TITSCHACK 1119.

Uma notata, notes on movements, habits, photographs, NORRIS 774.

Urocentron azureum, from Brazil, SCHMIDT & INGER 973.

Urosaurus ornatus, note on collecting technique, HOFFMEISTER 494.—Coloration of specimens from black lava country, Mexico, LEWIS 633.—*U. ornatus linearis*, from New Mexico; *U. o. wrighti*, from Utah, CHENOWETH 208.

Uta stansburiana stansburiana, from Utah, CHENOWETH 208.—*U. stansburiana hesperis* of Santa Ana Mts., California, PEQUEGNAT 837.—*U. stansburiana stejnegeri*, coloration of specimens from lava country, Mexico, LEWIS 633.

Xiphocercus valenciennesii, of Jamaica, UNDERWOOD 1146.

LACERTIDAE

Some caudal vertebrae subfossil in Zumpango, Mexico, MALDONADO-KOERDELL, M. 672.

Acanthodactylus cantor *blanfordii*, from Iran, WETTSTEIN & LÖFFLER 1193.—*A. scutellatus*, from Udei Tidedi, Tibesti, Libya, SCORTECCI 985.—*A. schreiberi syriacus*; *scutellatus*; *grandis*; *robustus*; *tristrami*; *pardalis*; *boskianus asper*, in Palestine, HAAS, G. 426.

†Dentary of *Chamops segnis* Marsh from Wapiti Form (U. Cretaceous) of Alberta, STERNBERG, C. M. 1074.

Eremias guttulata; *olivieri schmidtii*; *brevirostris*; in Palestine, HAAS, G. 426.—*E. olivieri*, should be recognised as distinct species; the following varieties of *E. guttulata*; viz, *martini* from Red Sea shores; *latasti* from Aumale (Algiers); *susana* from Susa (Tunisia); *balfouri* from Socotra are subspecies of *olivieri*, *E. olivieri schmidtii*, **subsp. nov.**, from Wadi Nefkh, Israel, Copeia 1951 p. 276, HAAS, G. 427.—*E. (Lampreremias) nitida garambensii*, *E. (Taenieremias) benueensis*, head fig.; from Cameroons, MONARD 730.—*E. spekkii sextaeniata* from Abyssinia, SCORTECCI 986.—*E. guttulata watsonana*, *E. velox velox* > < *persica*, from Iran, WETTSTEIN & LÖFFLER 1193.

Holaspis guentheri, range extension in Tanganyika T., LOVERIDGE 652.

Lacerta, development of medial wall of forebrain, KÄLLÉN 545.—Regeneration in central nervous system, STEFANELLI 1062.

†*Lacerta agilis* and *L. sp.* from Ice Age cave deposits in Germany, BRUNNER, G. 160.—*L. agilis*?, melanistic form in Dorset, LANG, W. D. 599.—*L. agilis*, on smelling ability, ABEL 7.—In Reims area, France, MENU 704.—Of Hanover, TENIUS 1106.—*L. agilis agilis*, remarks on, distribution records

in Dorset, DALTON 250.—On colour variation of Prague specimens, HOUBA 507.—Records in Denmark, PFAFF 852. Figs., col. pl., of Britain, ecology, SMITH, M. A. 1038.

Lacerta atlantica, from Canary Ids., KREFFT 579.

Lacerta bocagei liolepis, from Formentera, Balearic Ids., MEYER 716.

Lacerta brandtii, from Iran, WETTSTEIN & LÖFFLER 1193.

Lacerta danfordii?, from Iran, WETTSTEIN & LÖFFLER 1193.

Lacerta (Centromastic) *echinata* from the Cameroons, MONARD 730.

Lacerta galloti, *L. g. palmae*, *L. g. gomeræ*, from Canary Ids., KREFFT 579.

Lacerta laevis, in Palestine, HAAS, G. 426.

Lacerta lepida, from Canary Ids., KREFFT 579.

Lacerta muralis, on smelling ability, ABEL 7. — Protein catabolism, ANTONINO 39.—On nerve structure, CONTU 229.—On respiration consumption, KAYSER 558.—On marine association, SCHMIDT 969.—On pigment cells in tongue, SICHEL 1006.—Recorded colony in England, SMITH, M. A. 1039.—*L. m. muralis*, from nr. Rimavská Sobota, S. Slovakia, OLIVA 789.

Lacerta ocellata, physiology of respiration, figs., BOELAERT 102.

Lacerta pityusensis formenterae, notes, photo., *L. p. maluquerorum*, notes, MEYER 716.

Lacerta saxicola difilippii, from Iran, WETTSTEIN & LÖFFLER 1193.

Lacerta serpa (= *sicula*), on body proportions of Italian mainland and island populations, KRAMER 578.

Lacerta simonyi, *L. s. stehlini*, from Canary Ids., KREFFT 579.

Lacerta strigata strigata Eichw. = *woosnami* Boul., from Iran, WETTSTEIN & LÖFFLER 1193.

Lacerta viridis, on smelling ability, ABEL 7.—On nerve structure, CONTU 229.—Reported presence in Dorset, DALTON 250.—Outside structure of eye, MENNER 703.—In Reims area,

France, MENU 704.—*L. v. strigata*, in Palestine, HAAS, G. 426.

Lacerta vivipara, experimental development of early embryos *in vitro*, BELLAIRS, R. 83.—Remarks on, distribution records in Dorset, DALTON 250.—From Sorsele, Swedish Lapland, GUANITZ 384.—In Reims area, France, MENU 704.—From near Prague, OLIVA 790.—Bookham Common, Surrey, records, PANCHEN 818.—Anatomical-histological connection during gestation between egg and oviduct, PANIGEL 820.—Records in Denmark, PFAFF 852.—Figs., col. pl., of Britain, ecology, SMITH, M. A. 1038.—In Norway, SOOT-RYEN 1050.—Of Hanover, TENIUS 1106.—Of Finland, SUOMALAINEN & VOIPIO 1086.—*L. vivipara*?, melanistic form in Dorset, LANG, W. D. 599.

Lastatia longicaudata revoili from Gondaraba, Abyssinia, SCORTECCI 986.

Ophisops elegans; *e. ehrenbergii*; *e. schlusteri*; *e. mizolepis*, in Palestine, HAAS, G. 426.—*O. elegans elegans*, *O. e. ehrenbergii*, from Iran, WETTSTEIN & LÖFFLER 1193.

†*Polyodontosaurus grandis* Gilmore, formerly described as a lizard now shown to be a dinosaur, STERNBERG, C. M. 1074.

Psammodromus algerus algerus, on pairing, BIRKENMEIER 92.—From Formentera, Balearic Ids., MEYER 716.

Takydromus septentrionalis, on habits, feeding and living in captivity, experiments and observations on autotomy and regeneration, BORING, CHANG & CHANG 115.—*T. sexlineatus*; *s. ocellatus*, of Thailand, SUVATTI 1087.

†*Teilhardosaurus carbonarius*, **gen. & sp. nov.**, from Jurassic of Husin Coal field, South Manchuria, Proc. Japan Acad. 23 1–11 1942 p. 82 fig., SHIKAMA, T. 1001.

†MOSASAURIDAE

Mosasaur jaws compared with those of *Hesperornis* (Aves), GREGORY, J. T. 411.—*Plotosaurus* new name for *Kolposaurus* Camp, preocc. *Plotosaurus bennisoni*, U. Cretaceous of California, J. Paleont. 25 6 1951 p. 822, CAMP, C. L. 179.

PYGOPODIDAE

Pygopus lepidopodus, from Israelite Bay, W. Australia, SERVENTY 994.

SCINCIDAE

Ablepharus duruorum, from Cameroons, head fig., MONARD 730.—*A. kitaibelii*; (*brandtii festae* is not distinct from *kitaibelii*), in Palestine, HAAS, G. 426.

Barkudia insularis, on third specimen from Waltair, Madras, India, GANAPATI & KRISHNAN NAYER 382.

Chalcides ocellatus, excretion constituents, FOUAD KHALIL 346.—On presence of sacral ribs, figs., KAMEL 546.—*C. ocellata*; *sepsoides*; *guentheri*, in Palestine, HAAS, G. 426.—*C. ocellatus occidentalis*, *C. sexlineatus*, *C. viridanus*, from Canary Ids., KREFFT 579.

Corucia zebrata, from Solomon Ids., TANNER 1096.

Dasia olivacea, of Thailand, SUVATTI 1087.—*D. smaragdina*, from Arno Atoll, Marshall Ids., ecology notes, MARSHALL 686.—*D. smaragdinum perviridis*, from Admiralty Ids., Los Negros, TANNER 1095.—Solomon Ids., records, TANNER 1096.

Emoia cyanura, on Arno Atoll, Marshall Ids., forms; ecology notes, MARSHALL 686.—*E. atrocostatum*, *E. nigrum*, marine association and feeding in Bismarck Archipelago, SCHMIDT 969.—*E. mivarti*, from Admiralty Ids., Los Negros, considered a distinct species and not synonym of *E. baudinii baudinii*; *E. atrocostata*; *E. caeruleocauda*; *E. cyanogaster*; *E. cyanura*, from Admiralty Ids., Los Negros, TANNER 1095.—*E. cyanogaster*; *cyanura*; *nigrum*; *manni*; *whitneyi*; *flavigularis*; *wernerii*; *sanfordi*, Solomon Ids., records, TANNER 1096.

Eumeces anthracinus, first record from Texas, BROWN 154.—First records from Texas, TINKLE & CURTIS 1118.—*E. egregius*, courtship and mating behaviour, BABBITT 49.—*E. fasciatus*, from Ontario, EVANS, H. E. & ROECKER 310.—First record from Lebanon Cnty., Penn., HEILMAN 460.—*E. laticeps*, notes on natural history, feeding, hibernation, GOIN 404.—Range extended into Alleghanian Zone of Maryland, MEANLEY 697.—Ontogenetic changes in osteodermal ornamentation, figs., OLIVER 792.—Range

extended 150 miles N. to Andalusia, ROCK Id. Cnty., Illinois, SCHRODER 982.—*E. quadrilineatus*, of Thailand, SUVATTI 1087.—*E. taylori*, new record, Roswell, New Mexico, BUNDY 168.—*E. fasciatus*, *obsoletus*, *septentrionalis septentrionalis*, in Kansas, BREUKELMAN & CLARKE 144.—*E. fasciatus*, *E. inexpectatus*, *E. laticeps* from Virginia, WERLER & MCCALLION 1189.—*E. fasciatus*, common; *E. obsolatus*, rare, in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*E. fasciatus*, *E. septentrionalis septentrionalis*, additional Wisconsin records, DICKINSON 269.—*E. lynce furcistrois*, figures of ♀, young, note on birth; *E. brevilineatus*, figures of young; *E. tetragrammus*, notes on eggs, WERLER 1188.—*E. septentrionalis obtusirostris*, range extended; *E. fasciatus*, *E. anthracinus*, from Texas, BROWN 153.—*E. schneideri syriacus*, in Palestine, HAAS, G. 426.—*E. skiltonianus*, *E. rubricaudatus*, of Santa Ana Mts., California, PEQUEGNAT 837.

Leiopisma, on 7 Thailand species, SUVATTI 1087.—*Leiopisma caudaequinae*, **sp. nov.**, from Horsetail Falls, nr. Monterrey, Nuevo León, Mexico, Univ. Kansas sci. Bull. 34 1 1951 p. 195, SMITH, H. M. 1030.—*L. laterale*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Biology, figs., LEWIS 632.—From Texas, SMITH, P. W. & BURGER 1044.—Notes on eggs, WERLER 1188.—From Virginia, WERLER & MCCALLION 1189.—*L. sikkimensis* from Nepal, 5,000 ft., SMITH, M. A. 1041.

Leptosiphos rhodurus, **sp. nov.**, from Mwana, 1,600 m. Mwenga Territory, Kivu, C. Africa, Rev. Zool. Bot. afr. 44 1951 p. 361, LAURENT, R. 612.

Lygosoma, on 8 Thailand species, SUVATTI 1087.—*L. maculatum*, from Manipur State, Assam, ACHARJI & KRIPALANI 8.—*L. (Leiopisma) fuscum luctosum*, from Admiralty Ids., Los Negros, TANNER 1095.—*L. (Leiopisma) anolis*; *noctua*; *L. (Lygosoma) solomonis*; *concinnum*; *L. (Sphenomorphus) cranei*, *taylori*; *bignelli*, from Solomon Ids., TANNER 1096.

Mabuya, on 5 Thailand species, SUVATTI 1087.—From the Cameroons; mentioned *raddoni*; *perroteti*; *maculilabris*; *quinquetaeniata langheldi*; *sudanensis*, MONARD 730.—*M. agilis*, from

Venezuela, MARCUZZI 684.—*M. aurata affinis* (= *septemtaeniata* auct.), from Iran, WETTSTEIN & LÖFFLER 1193.—*M. delalandei* from S. Tiago; *M. fogoensis* from S. Antao, Cape Verde Ids., DEKEYSER & VILLIERS 258.—*Mabuya heathi* **sp. nov.**, from Fortaleza, Ceará, Brazil; related to *guaporicola*, Fieldiana Zool. 31 42 p. 455, SCHMIDT & INGER 973.—*M. mabouya mabouya*, of Peru, TITSCHACK 1119.—From Bolivia and Brazil, SCHMIDT & INGER 973.—*M. macrorhyncha*, from Queimada Grande Id., São Paulo, Brazil, with ecological notes, HOGE 497.—*M. maculilabris maculilabris*, *M. m. boulengeri*; *M. planifrons* from Tanganyika T., LOVERIDGE 652.—*M. stangeri* from Cape Verde Ids. (Sal; S. Vicente), DEKEYSER & VILLIERS 258.—*M. striata*, from Tanganyika T., LOVERIDGE 652.—*M. striata*, *planifrons*, *brevicollis*, *quinquetaeniata*, *megalura*, from Abyssinia, SCORTECCI 986.—*M. varia varia*, from Tanganyika T., LOVERIDGE 652.—*M. vittatus*, in Palestine, HAAS, G. 426.

Melanoseps ater rondoensis, from Tanganyika T., and Kenya C., LOVERIDGE 652.

Ophiomorus brevipes, from Iran, WETTSTEIN & LÖFFLER 1193.—*O. latastii*, in Palestine, HAAS, G. 426.

Ophioscincus anguinoides, gyldenstolpei, roulei, of Thailand, SUVATTI 1087.

Pediporus schmidtii; *blanchardi*, from Solomon Ids., TANNER 1096.

Riopa albofasciolata, Solomon Ids., records, TANNER 1096.—*R. bowringi, herberti, koratense, isodactyla*, of Thailand, SUVATTI 1087.—*R. guentheri*, structure of the heart, figs., KASHYAP 551.—*R. sundevallii*, from Tanganyika T., LOVERIDGE 652.—From Abyssinia, SCORTECCI 986.

Scelotes astrolabi, fig., food, notes on aquatic habitat, MILLOT 723.

Scincella laterale, in Kansas, BREUKELMAN & CLARKE 144.

Scincus officinalis, excretion constituents, FOUAD KHALIL 346.—*S. stincus*; sp. ? in Palestine, HAAS, G. 426.

Tiligua [scincoides], caught in San Mateo, San Francisco, MYERS 749.

Tribolonotus ponceti from Solomon Ids., TANNER 1096.

Tropidophorus berdmorei, microlepis, robinsoni, thai, yunnanensis, of Thailand, SUVATTI 1087.

TEIIDAE

†Remains of ? Teiidae in Miocene of Colombia, SAVAGE, D. G. 957.

Ameiva. ameiva ameiva, *A. a. praesignis*, recognizable subspecies, other subspecies appear to have low taxonomic value, MARCUZZI 685.—*A. a. ameiva* from Bolivia and Brazil, SCHMIDT & INGER 973.—*A. a. melanocephalus*, fig., *a. vogli*, fig., *a. praesignis*, fig., of Venezuela, RÖHL 920.—*A. a. petersii*, of Peru, TITSCHACK 1119.—*A. auberi*, from Cuba, ALOYO 17.—*A. bifrontata*, photo., *A. ameiva ameiva*; *A. a. praesignis*, from Venezuela, MARCUZZI 684.—*A. bifrontata*, Venezuela, 3 subspecies noted, *bifrontata*, *concolor*, *insulana*, MARCUZZI 685.—*A. undulata parva*, from Guatemalan Plateau, STUART 1084.—*A. undulatus podargae*, from Mexico, *A. u. amphigramma*, from Mexico and first record from Puebla, SMITH, P. W. & BURGER 1044.—*A. undulata stuarti*, from Chiapas, Mexico, SMITH, P. W. & H. M. 1046.

Cnemidophorus, in Patagonia, KRIEG 581.—*C. decemlineatus*, on type locality, DUNN & STUART 284.—*C. deppii oligoporus*, first appearance since original record; *C. guttatus guttatus*; *C. sackii gularis*; *C. s. communis*, all from Mexico, SMITH, P. W. & BURGER 1044.—*Cnemidophorus gadovi*, **sp. nov.**, from Hermosillo, Sonora, Mexico, p. 2; *C. inornatus* on Mexico confusion; *C. perplexus* on use of name; *C. sackii innotatus*, **subsp. nov.**, from Colorado plateau including S. Utah, S.E. Colorado, N. Arizona, N. New Mexico; p. 4; *C. sackii semifasciata*, use of name; *C. sackii stictogrammus*, **subsp. nov.**, from W. Trans-Pecos Texas, S. New Mexico, S. Arizona excluding S.W. corner, N.W. Mexico, p. 5; *C. tigris aethiops*; *C. t. gracilis*; *C. t. marmoratus*; *C. t. multiscutatus*; *C. t. mundus*; *C. t. septentrionalis*, **subsp. nov.**, from Una, Garfield Cnty., Colorado, p. 8; *C. t. tigris*, Nat. Hist. Misc., Chicago, No. 65 1950, BURGER, W. L. 169.—*C. gularis octolineatus*, from New Mexico and Utah, CHENOWETH 208.—*C. lemniscatus*; *nigricolor*, of Venezuela, RÖHL 920.—*C. lemniscatus*

lemniscatus, photo., from Venezuela, MARCUZZI 684.—On geographical populations in Venezuela, MARCUZZI 685.—*C. ocellifer* from Brazil, SCHMIDT & INGER 973.—*C. sexlineatus*, in Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—From Virginia, WERLER & MCCALLION 1189.—*C. tessellatus stejnegeri* of Santa Ana Mts., California, PEQUEGNAT 837.—*C. tigris tigris*, coloration of specimens from lava country, Mexico, LEWIS 633.

Colobodactylus taunayi, from Queimada Grande Id., São Paulo, Brazil, with ecological notes, HOGE 497.

Dracaena guianensis, notes and figs. of living specimen, OLIVER 794.

Gymnophthalmus quadrilineatus, from Brazil, SCHMIDT & INGER 973.—*G. rubricauda*, on specimen from Argentina (El Sauce, Dept. de Calamuchita, Cordoba), GALLARDO 372.—*G. speciosus*, from Venezuela, MARCUZZI 684.

Kentropyx calcaratus from Brazil, SCHMIDT & INGER 973.—Of Peru, TITSCHACK 1119.

Tretio[s]cincus bifasciatus, photo., from Venezuela, MARCUZZI 684.

Tupinambis nigro-punctatus, from Venezuela, MARCUZZI 684.—*T. teguixin*, fig., of Venezuela, ROHL 920.—From Brazil, SCHMIDT & INGER 973.

VARANIDAE

Varanus, on distribution of nitrogen in the flesh, AIRAN & GHATGE 13.—Key to W. Australian species, GLAUERT 398.—On 5 Thailand species, SUVATTI 1087.—*V. griseus*, in Palestine, HAAS, G. 426.—From Tibesti, Libya, SCORTECCI 985.—*V. griseus*; *bengalensis*, from Iran, WETTSTEIN & LOFFLER 1193.—*V. indicus*, from Solomon Ids., TANNER 1096.—*Varanus karlschmidti*, **sp. nov.**, from Marienberg, Sepik R., New Guinea, Fieldiana Zool. 31 43 1951 p. 467 head figs., MERTENS, R. 712.—*Varanus mertensi*, **sp. nov.**, from Moola Bulla Cattle Station, nr. Halls Creek, E. Kimberley, W. Aust. Nat. 3 1 1951 p. 14 head fig., GLAUERT, L. 398.—*V. niloticus*, figs., from Abyssinia, SCORTECCI 986.—*V. niloticus, exanthematicus* from Cameroons, MONARD 730.—

V. salvadorii, on skull, figs., MERTENS, R. 706.

XANTUSIIDAE

Xantusia, number of young, species : —*arizonae, henshawi, riversiana riversiana, vigilis*, BRATTSTROM 138.—*X. riversiana*, 3 and 4 young found in two females, AMREIN 27.—Geographical variation in Channel Ids., California ; *X. riversiana reticulata* is a synonym of *X. riversiana*, SAVAGE, J. M. 958.—*X. vigilis*, life history, MILLER, M. R. 720.

XENOSAURIDAE

Xenosaurus grandis, colour notes, from San Lucas Camotlán, Oaxaca, SHANNON 998.

SERPENTES

General : Fossil.—†Part of vertebral column of snake in L. Cretaceous, South Tunisia, LAPPARENT, A. F. DE 606.

General : Recent.—Snakes of Pará, AMARAL 24.—The origin of snakes, BELLAIRS & UNDERWOOD 82.—Method of expressing scale reductions ; Proposed standard system of counting ventral scales, DOWLING 272, 274.—On some type localities restricted by Smith & Taylor, DUNN & STUART 284.—Evolution survey, GREGORY, W. K. 412.—The medical aspects of venomous snakes ; film, HACKETT 428.—S.W. Arizona and Sonora reconnaissance, HENSLEY 469.—Guide to snakes of Colorado (Revised), JONES-BURDICK 535.—Of the Cameroons, list of species, bibliography, MONARD 730.—Longevity of snakes in captivity in the United States, PERKINS, C. B. 841.—Snakes of Costa Rica, synopsis of species, keys and figs., TAYLOR, E. H. 1102.—Poisonous snakes of Texas and first-aid treatments, figs., pls., 1 col., WERLER 1187.—Observations and analysis of snake den in Utah, WOODBURY 1216.

ANILIDAE

Anilius scytale, fig. ; on pulmonary artery, BRONGERSMA 150.

Anomochilus weberi, description of third specimen, note on hind limb, fig., and lung, BRONGERSMA & HELLE 152.

Cylindrophis rufus, fig.; *boulengeri*; *maculatus*; *isolepis*, fig., on pulmonary artery, BRONGERSMA 150.—*C. rufus*, of Thailand, SUVATTI 1087.—*C. rufus burmanus*, from Manipur State, Assam, ACHARJI & KRIPALANI 8.

ANOMALEPIDAE

Anomalepis dentatus from Costa Rica, TAYLOR, E. H. 1102.

Helminthophis frontalis from Costa Rica, TAYLOR, E. H. 1102.

Liotyphlops albirostris from Costa Rica; *L. eumunctus* regarded as distinct from *albirostris*, TAYLOR, E. H. 1102.

BOIDAE

†Remains of ? Boidae in Miocene of Colombia, SAVAGE, D. E. 957.—Some remarks on nomenclature of generic names, FORCART 345.—Key to Costa Rican species, TAYLOR, E. H. 1102.—Note on distribution, UNDERWOOD 1143.—Classification of Australian genera, figs., key, WORRELL 1219.

Acrantophis madagascariensis, fig., on pulmonary artery, BRONGERSMA 150.

Aspidites melanocephalus, *ramsayi*, notes, range, WORRELL 1219.

Boa, *B. canina* Linn. 1758, designated by Stejneger, 1901, and accepted by Stull as type species is incorrect, should be, *B. constrictor* Linn. 1758 is valid genotype; *Constrictor* Laurenti = *Boa* Linn. 1758; Type species selected; *C. formosissimus* Laurenti and is a synonym of *B. constrictor*; species recognised, *B. c. constrictor*; *c. amarali*; *c. occidentalis*; *c. sabogae*; *c. sigma*; *orophias*, FORCART 345.—*B. annulata* from Costa Rica, TAYLOR, E. H. 1102.—*B. canina*, fig.; *B. enydris enydris*, fig., on pulmonary artery, BRONGERSMA 150.

Bolyeria, see under *Casarea* 34.

BOLYERINÉS, **sub-family nov.**, to include *Casarea* and *Bolyeria*, C.R. Acad. Sci. Paris 233 2 1951 p. 203, ANTHONY & GUIBÉ 34.

Bothrochilus boa, on pulmonary artery, BRONGERSMA 150.

Calabaria reinhardtii, fig., on pulmonary artery, BRONGERSMA 150.

Casarea, on phlogenetic development; proposed sub-family BOLYERINÉS, for

Casarea and *Bolyeria*, ANTHONY & GUIBÉ 34.

Charina bottae, observations on likeness for water, ALLER 16.—*C. bottae utahensis*, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.

Chondropython viridis, fig., on pulmonary artery, BRONGERSMA 150.—Fig., notes, range, in Australia, WORRELL 1219.

Constrictor, see also *Boa*.

Constrictor constrictor, on length records, folk-lore, etc., AMARAL 25.—On biting apparatus, ANTHONY & SERRA 37.—Fig., of Venezuela, RÖHL 920.—*C. constrictor constrictor*, fig., *C. c. imperator*; *C. c. occidentalis*, on pulmonary artery, BRONGERSMA 150.—*C. c. imperator* from Costa Rica, TAYLOR, E. H. 1102.

Enygrus: *Enygrus* Wagler 1830, is a synonym of *Python* Daud. 1803. Should be replaced by *Candoia* Gray 1842, includes *C. a. aspera*; *a. schmidtii*; *b. bibronii*; *b. australis*, FORCART 345.—*E. carinatus*, fig.; *E. bibroni bibroni*, *E. asper schmidtii*, figs., on pulmonary artery, BRONGERSMA 150.—*E. carinatus*; *australis*; *bibronii*; *asper*, Solomon Ids., records, TANNER 1096.

Epicrates angulifer, from Cuba, ALOYO 17.—*E. cenchria maurus* from Costa Rica, TAYLOR, E. H. 1102.—*E. crassus*, on biting apparatus, ANTHONY & SERRA 37.—*E. striatus striatus*, *E. cenchria cenchria*, fig., *E. inornatus inornatus*, on pulmonary artery, BRONGERSMA 150.

Eryx colubrinus, from Gondaraba, Abyssinia, SCORTECCI 986.—*E. conicus brevis*, **subsp. nov.**, from Chavakachcheri, Jaffna, Ceylon, Spolia Zeylan. 26 2 1951 p. 147, DERANIYAGALA 263.—*E. jaculus*, in Palestine, HAAS, G. 426.—*E. johinii johinii*; *E. jaculus jaculus*, fig., on pulmonary artery, BRONGERSMA 150.—*E. muelleri muelleri*, fig., from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Eunectes murinus, on length records, folk-lore, etc., AMARAL 25.—Description of orbital sinus, ANTHONY & SERRA 35.—Fig., of Venezuela, RÖHL 920.—*E. scytale*, fig.; on pulmonary artery, BRONGERSMA 150.

Liasis amethystinus amethystinus, fig., *L. a. kinghorni*, *L. fuscus albertisii*, *L.*

mackloti mackloti, fig., *L. olivaceus papuanus*, on pulmonary artery, BRONGERSMA 150.—*L. childreni*, *fuscus*, *olivaceus*, *albertisii*, figs., habit notes, range in Australia, WORRELL 1219.

Lichanura roseofusca roseofusca, on pulmonary artery, BRONGERSMA 150.—Of Santa Ana Mts., California, PEQUEGNAT 837.—*L. r. gracia*, from Arizona, HENSLEY 469.

Morelia argus, fig., on pulmonary artery, BRONGERSMA 150.—*M. argus variegata*, opinion that subspecies should be retained, MITCHELL, F. J. 727.

Peropodum, see *Ungaliophis*.

Plastoseryx bronni (in synonymy of *Loxocemus bicolor*), on type locality, DUNN & STUART 284.—Note on type ; (synonym of *Loxocemus bicolor*), MERTENS, R. 708.

Python, structure of eye nerve system ;—On nerve structure, CONTU 228, 229.—*P. amethylinus*, *spilotes*, habit notes, range in Australia, WORRELL 1219.—*P. molurus*, on egg-laying in captivity, between mating 1938 and 1951, LEIGH 627.—*P. molurus*, *reticulatus*, of Thailand, SUVATTI 1087.—*P. sebae*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*P. sebae*, *P. regius*, from Cameroon, MONARD 730.—*P. timoriensis*, *P. regius*, fig., *P. curtus brongersmai*, *P. c. curtus*, fig., *P. molurus bivittatus*, fig., *P. m. molurus*, fig., *P. reticulatus*, fig., *P. sebae*, fig., on pulmonary artery, BRONGERSMA 150.

Sanzinia madagascariensis, on pulmonary artery, BRONGERSMA 150.

Trachyboa gularis, notes and figures upon anatomy, BRONGERSMA 149.

TROPIDOPHINAE, **subfam. nov.**, for genera *Tropidophis* and *Trachyboa*, Zool. Meded. 31 1951 p. 124 ;—*Tropidophis melanurus*, *T. maculatus haetianus*, *T. pardalis pardalis*, notes and figures upon anatomy, BRONGERSMA 149.—*T. maculatus*, notes and habits of Jamaican specimens, CAMPBELL 180.—*T. parkeri*, note on mouth bleeding when chloroformed, LEWIS see CAMPBELL 180.—*T. wrighti*, *T. melanurus*, from Cuba, ALOYO 17.

Ungaliophis : *Peropodum* Muller = *Ungaliophis* Muller 1882. Author of *Peropodum* and *P. guatemalensis* is

Bocourt 1882 and not Muller ; *Ungaliophis continentalis* Muller 1882 and *Peropodum guatemalensis* published on the same date, name upheld by Cope 1887 and Boulenger 1893 is *U. continentalis* Muller, FORCART 345.

COLUBRIDAE

Costa Rican fauna, species keys, figs., TAYLOR, E. H. 1102.

Acrochordus javanicus, of Thailand, SUVATTI 1087.

Adelphicos quadrivirgatus visoninus, on type locality, DUNN & STUART 284.

Ahaetulla calligaster, from Solomon Ids., TANNER 1096.—*A. formosa*, attack on lizard, probably *Calotes cristatellus*, RAWLINGS 894.—*A. formosa*, *mycterizans*, *nasuta*, *prasina*, of Thailand, SUVATTI 1087.

Alsophis angulifer, from Cuba, ALOYO 17.

Amastrium veliferum, from Costa Rica, TAYLOR, E. H. 1102.

Amblycephalus, on 6 Thailand species, SUVATTI 1087.

Amblyodipsas, first generic record from Tanganyika (*A. katangensis ionidesi*) ;—*Amblyodipsas katangensis ionidesi*, **subsp. nov.**, Type from Tunduru, S.P., Paratypes from Liwale and Tunduru, S.P., Tanganyika T., Bull. Mus. comp. Zool., Harvard 106 1951 p. 193, LOVERIDGE, A. 652.

Aparallactus lunulatus lunulatus, *A. werneri*?, *A. capensis capensis*, from Tanganyika T., *A. concolor* retained for N. race and is not a synonym of *lunulatus*, LOVERIDGE 652.

Aplopeltura [*Haplopeltura*] *boa*, of Thailand, SUVATTI 1087.

Arizona *e. elegans*, from Texas, RAMSEY 887.—*A. e. noctivaga*, from Arizona, HENSLEY 469.

Arrhyton taeniatum ; *A. vittatum*, from Cuba, ALOYO 17.

Atractus badius from Brazil, SCHMIDT & INGER 973.

Boaedon fuliginosus, *B. lineatus*, from Cameroons, MONARD 730.—*B. lineatus lineatus* from Tanganyika T., LOVERIDGE 652.—*B. lineatus*, from Gondaraba, Abyssinia, SCORTECCI 986.—*B. fuliginosus*, fig., *lineatus lineatus*, from N.

Africa in I.F.A.N. in 1950, VILLIERS 1165.

Boiga, on 6 Thailand species, SUVATTI 1087.—*B. blandingii*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*B. blandingii*, *B. pulverulenta*, from Cameroons, MONARD 730.—*B. fusca*, note on venom danger to man, ORMSBY 807.—*B. irregularis*, from Solomon Ids., TANNER 1096.

Calamaria pavementata, *vermiformis*, of Thailand, SUVATTI 1087.

Calamelaps unicolor warreni, from Tanganyika T., LOVERIDGE 652.—*Calamelaps ventrimaculatus katangensis*, **subsp. nov.**, from Kamina, Haut Lomami Dist., Katanga, Belgian Congo Rev. Zool. Bot. afr. 45 1951 p. 17, WITTE 1208.

Carphophis amoena amoena from Virginia, WERLER & McCALLION 1189.—*C. amoenus helenae*, from Greene Cnty., Ohio, DUELLMAN 277.—*C. amoena vermis*, in Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.

Cemophora coccinea, locality records in Maryland, COOPER 230.—From Virginia, WERLER & McCALLION 1189.—Note on burrowing and food, WILSON 1199.

Cerberus rhynchops, on marine association in Java, SCHMIDT 969.—Of Thailand, SUVATTI 1087.

Chersydrus granulatus, of Thailand, SUVATTI 1087.—From Solomon Ids., TANNER 1096.

Chilomeniscus cinctus, from Arizona, HENSLEY 469.

Chilorhinophis, key to species ; *C. gerardi tanganyikae*, **subsp. nov.**, Type from Nyamkolo, Lake Tanganyika, N. Rhodesia ; Paratypes from Ujiji, Lake Tanganyika, Tanganyika T., and Lake Mweni, Belgian Congo, p. 195 ; *C. carpenteri liwalensis*, **subsp. nov.**, Type from Liwale, 2,100 ft., paratypes from Liwale ; Masasi Dist., Rufunda, Lindi Dist., all the S. Prov., Tanganyika T., Bull. Mus. comp. Zool., Harvard, p. 196, LOVERIDGE, A. 652.

Chionactis, key to species ; historical summary, phlogeny, ecology ; *C. occipitalis occipitalis*, fig., *C. o. annulata*, fig., *C. o. klauberi*, *C. o. talpina*, **subsp.**

nov., p. 172, fig., *C. palarostris palarostris*, *C. p. organica*, **subsp. nov.**, p. 178, fig., Trans. S. Diego Soc. nat. Hist. 11 9 1951, KLAUBER 566.—*C. occipitalis annulata* from Arizona ; *C. o. palarostris*, from Arizona, apparently first definite record from U.S.A., HENSLEY 469.

Chironius carinatus ; *C. grandisquamis* ; *C. melas*, from Costa Rica, TAYLOR, E. H. 1102.

Chlorophis is a synonym of *Philothamnus*, LOVERIDGE 652.—*Chlorophis*, genus untenable, now = *Philothamnus*, revision, synopsis, species key, LOVERIDGE 653.—*C. hoplogaster*, from Cameroons, MONARD 730.

Chrysopelea ornata, of Thailand, SUVATTI 1087.

Clelia clelia clelia, fig. ; *C. petolarius*, fig. ; from Costa Rica, TAYLOR, E. H. 1102.

Coelopeltis lacertina, on feeding habits, SAROUN 956.

"*Coluber caesius*", Cloquet 1818, request to Internat. Comm. to suppress trivial name ; for *Philothamnus irregularis*, LOVERIDGE 655.—*Coluber constrictor*, histology of motor end-plates, COLE 222.—*C. c. constrictor*, from Green Cnty., Ohio, DUELLMAN 277.—From Lebanon Cnty., Penn., HEILMAN 460.—From Virginia, WERLER & McCALLION 1189.—*C. c. flaviventris*, in Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Additional Wisconsin records, DICKINSON 269.—Note on W. Illinois den, SCHRODER 981.—*C. constrictor mormon*, observations on denning, WOODBURY 1216.—*C. eques*, photo of type ; allocation of name and specific identity discussed ; synonymies of the following are given : *Thamnophis eques eques*, *T. e. megalops*, *T. cyrtopsis cyrtopsis*, *T. cyrtopsis cyclades*, *T. c. postremus*, SMITH, H. M. 1029.—*C. flagellum frenatus* of Santa Ana Mts., California, PEQUEGNAT 837.—*C. jugularis jugularis*; *najadum*, *rhodorhachis* (probably); *rogersi*; *elegantissimus* (most probably); *nummifer*, in Palestine, HAAS, G. 426.—*C. lateralis* of Santa Ana Mts., California, PEQUEGNAT 837.—*C. longissimus*, on feeding habits, SAROUN 956.—*C. ravergieri ravergieri* ; *C. rhodorhachis*, from Iran, WETTSTEIN & LÖFFLER 1193.—

"*Coluber sirtalis*" on change of currently used trivial name, SCHMIDT & CONANT 972.—*C. sirtalis*, add to KLAUBER, JOHNSON 533.—On proposal of change in use of trivial name; *sirtalis* retained for common garter snake; *sauritus* for northern ribbon snake, KLAUBER 567.—*C. smithi*, from Asile, Abyssinia, SCORTECCI 986.—*C. viridiflavus*, in Reims area, France, MENU 704.

Coniophanes piceivittis taylori, **subsp. nov.**, from Agua del Obispo, Guerrero, Mexico, fig. head and part body; *C. p. piceivittis* fig., pt. body, Univ. Kansas Sci. Bull. 34 1 1951 p. 208, HALL, C. W. 435.—*C. imperialis imperialis*, on food habits, DAVIS, W. B. 255.—*C. decipiens*, possibly should be referred to a new genus; *C. piceivittis*; *C. fissidens punctigularis*, from Costa Rica, TAYLOR, E. H. 1102.

Conophis lineatus dunni; *C. nevermanni*; from Costa Rica, TAYLOR, E. H. 1102.

Contia, distinction between *Contia* and *Eirenis*; description of hemipenis of *C. tenuis*, STICKEL 1076.—*C. collaris*, *C. fasciata*, from Iran, WETTSTEIN & LÖFFLER 1193.

Coronella austriaca, protein catabolism, ANTONINO 39.—Reported in Dorset, LANG, W. D. 599.—In Reims area, France, MENU 704.—Figs. col. pl., of Britain, ecology, SMITH, M. A. 1038.—Of Finland, SUOMALAINEN & VOPIO 1086.—Of Hanover, TENIUS 1106.—In Finland, WIKSTRÖM 1194.—*C. austriaca austriaca*, distribution records in Dorset, photo., DALTON 250.—Records in Denmark, PFAFF 852.

Crotaphopeltis, observations on genus, species *shrevei* and *duchesnii*, should be referred to *Dipsadoboa*, LAURENT 611.—*C. hotamboeia*, from Murle, Abyssinia, SCORTECCI 986.—*C. hotamboeia hotamboeia*, from Tanganyika T., LOVERIDGE 652.—From Cameroons, MONARD 730.—From N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Dendrelaphis caudolineatus, *subocularis*, of Thailand, SUVATTI 1087.

Dendrophidion paucicarinatus; *D. dendrophis*, from Costa Rica, TAYLOR, E. H. 1102.

Dendrophis boiga, of Thailand, SUVATTI 1087.

Diadophis, compared with *Contia*, hemipenis and jaws, STICKEL 1076.—*D. amabilis* subsp., of Santa Ana Mts., California, PEQUEGNAT 837.—*D. punctatus punctatus* from Virginia, WERLER & MCCALLION 1189.—*D. punctatus arnyi*, in Kansas, BREUKELMAN & CLARKE 144.—From Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*D. p. edwardsii*, from Green Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—First record from Lebanon Cnty., Penn., HEILMAN 460.—*D. regalis regalis*, observations on denning, WOODBURY 1216.

Dipsadoboa, observations on genus, species to be included, *unicolor*, *elongata*, *duchesnii*, *isolepis*, *shrevei*, *werneri*, key, LAURENT 611.—*D. unicolor*, from Cameroons, MONARD 730.—From N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Dipsas, on status; comparison and relationship with *Sibon*, evolution, DUNN 282.—*Dipsas* on Costa Rican forms, key; *D. anthracops*; *D. pictiventris*; *D. argus*, *D. articulata*; *D. annulata*; *D. ruthveni*; *D. costaricensis* **sp. nov.**, from 5 miles S.W. of Turrialba, on Morehead finca, Costa Rica, fig. p. 63, Univ. Kansas sci. Bull. 34 1 1951, TAYLOR, E. H. 1102.—*Dipsas albifrons cavaleiroi*, **sp. nov.**, from Queimada Grande Id., São Paulo, Brazil, Mem. Inst. Butantan 22 1950 p. 154 fig., HOGE 497.

Dromicus andreae, from Cuba, ALOYO 17.—*D. callilaemus*; *C. funereus*, notes on Jamaican specimens, CAMPBELL 180.

Dromophis praeornatus praeornatus, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Dryadophis melanolornus alternatus from Costa Rica, TAYLOR, E. H. 1102.—

Drymarchon corais rubidus, from Guerrero, Mexico, HALL, C. W. 435.—*D. corais corais* from Brazil, SCHMIDT & INGER 973.—*D. c. melanurus*, from Costa Rica, TAYLOR, E. H. 1102.—*D. c. melanurus* ♀, *D. c. couperi* ♂, note on "mating" behaviour in captive specimens, TINKLE 1117.

Drymobius bifossatus, *dendrophis*, from Brazil, SCHMIDT & INGER 973.—*D. margaritifera margaritifera*; *D. rhombifer*; *D. chloroticus*; *D. melanotropis*,

from Costa Rica, TAYLOR, E. H. **1102**.—*D. m. margaritiferus*, notes on eggs, WERLER **1188**.

Dryocalamus davisonii, of Thailand, SUVATTI **1087**.

Dryophiops rubescens, of Thailand, SUVATTI **1087**.

Eirenis, distinction between *Eirenis* and *Contia*; description of hemipenis of *E. modesta*, STICKEL **1076**.—*E. decemlineata*; *collaris*; *rothi*; *coronella*; *c. fraseri*; *lineomaculata*, in Palestine, HAAS, G. **426**.

Elaphe, on 6 Thailand species, SUVATTI **1087**.—*E. emoryi* (B. & G.) is correct name for the plains ratsnake, DOWLING **271**.—*E. emoryi emoryi* (*E. laeta laeta*); *E. obsoleta obsoleta*, in Kansas, BREUKELMAN & CLARKE **144**.—*E. chlorosoma* from Guerrero, Mexico, HALL, C. W. **435**.—*E. g. guttata*, on "combat" dances, SHAW **999**.—*E. (Scotophis) laeta* (B. & G., 1853), type locality restricted to S.W. Oklahoma or E. Texas panhandle, is a synonym of *Elaphe obsoleta* (Say 1823); *E. laeta* (auct.) incorrect for the plains ratsnake which should be *E. emoryi* (B. & G.), DOWLING **271**.—*E. laeta laeta*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—Record from Illinois, SMITH, P. W. & BURGER **1042**.—*E. l. laeta*, *E. obsoleta confinis*, notes on eggs and pictures of young, WERLER **1188**.—*E. longissima longissima*, in Denmark, now extinct, PFAFF **852**.—*E. obsoleta* (Say), DOWLING **271**.—*E. obsoleta obsoleta*, common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—From Green Cnty., Ohio, DUELLMAN **277**.—From Lebanon Cnty., Penn., HEILMAN **460**.—From Virginia, WERLER & McCALLION **1189**.—*E. o. quadrivittata*, note on head bobbing, MEHRTENS **700**.—*E. obsoleta rossalleni*, on bromelia in Florida, NEILL **759**.—*E. quadrivittata*, note on humming by tail vibrations, REUSS **908**.—*E. quadrivittata dekerti*, in salt mangrove swamps in Florida, SCHMIDT **969**.—*E. radiata*, from Manipur State, Assam, ACHARJI & KRIPALANI **8**.—*E. radiata*, fig., *E. flavolineata*, on pulmonary artery, BRONGERSMA **150**.—*E. triaspis*; *E. flavirufa flavirufa* from Costa Rica, TAYLOR, E. H. **1102**.—*E. vulpina vulpina*, additional Wisconsin records, DICKINSON **269**.—Courtship

and mating, SIMONSON **1012**.—*E. vulpina gloydi*, from Ontario, EVANS, H. E. & ROECKER **310**.

Elapsoides guentheri from Caschei, Abyssinia, SCORTECCI **986**.—*E. sundevallii decosteri* from Tanganyika T., LOVERIDGE **652**.

Enhydryis, on 7 Thailand species, SUVATTI **1087**.—*E. bennetti*, caught in sea, SCHMIDT, **969**.

Enulius flavitorques; *E. sclateri*, fig., from Costa Rica, TAYLOR, E. H. **1102**.

Erpeton tentaculatum, of Thailand, SUVATTI **1087**.

Erythrolamprus aesculapii, of Venezuela, RÖHL **920**.—From Brazil, SCHMIDT & INGER **973**.—*E. bizona*, on type locality, DUNN & STUART **284**.—From Costa Rica, TAYLOR, E. H. **1102**.

Farancia abacura abacura from Virginia, WERLER & McCALLION **1189**.

Fordonia leucobalia, on marine association, SCHMIDT **969**.

Gastrophysix smaragdina, from Cameroons, MONARD **730**.

Geophis key to Costa Rican species, *G. rhodogaster*, record regarded as doubtful; *G. godmani*; *G. hoffmanni*, fig.; *G. dolichocephala*, fig.; *G. moesta* regarded as distinct from *brachycephalus*; *G. brachycephala*, fig.; TAYLOR, E. H. **1102**.—*G. nasalis*, from Chiapas, Mexico, SMITH, P. W. & H. M. **1046**.—*G. rhodogaster*, from Guatemalan Plateau, STUART **1084**.

Gongylsoma scriptum [*Liopeltis*] of Thailand, SUVATTI **1087**.

Grayia smythii, from N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Haldea valeriae, range of subspecies, data on reproduction, SINCLAIR **1014**.—*H. v. valeriae*, biology notes; probably ovoviviparous, SINCLAIR **1016**.—Additional Wisconsin records, DICKINSON **269**.—From Virginia, WERLER & McCALLION **1189**.—*H. valeriae elegans*, possibly present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.

Haplopeltura see *Aplopeltura*.

Helicops leopardinus, *angulatus*, from Brazil; *polylepis* from Bolivia, SCHMIDT & INGER **973**.—*H. wettsteini* from Costa Rica, TAYLOR, E. H. **1102**.

Hemirhagerrhis nototaenia nototaenia, from Tanganyika T., LOVERIDGE 652.

Heterodon contortrix, not found in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*H. contortrix contortrix*, additional Wisconsin records, DICKINSON 269.—From Virginia, WERLER & McCALLION 1189.—*H. nasicus kenneblyi*, notes on eggs, WERLER 1188.—*H. platyrhinos*, umbilical scar as sexually dimorphic character, EDGREEN 295.—*H. p. platyrhinos*, from Ontario, EVANS, H. E. & ROECKER 310.—*H. p. platyrhinos*; *nasicus nasicus*, single records in Kansas, BREUKELMAN & CLARKE 144.

Hispistes hydrinus, of Thailand, SUVATTI 1087.

Homalocranium melanocephalum from Brazil, SCHMIDT & INGER 973.

Homalopsis buccata, on anatomy, locomotion, habits, poison of and other snake poisons it is sensitive to, BERGMAN 86.—Of Thailand, SUVATTI 1087.

Hydromorphus concolor from Costa Rica, TAYLOR, E. H. 1102.

Hypsigena ochrorhynchus ochrorhynchus, from Arizona and Sonora, HENSLEY 469.—Of Santa Ana Mts., California, PEQUEGNAT 837.—*H. o. deserticola*, observations on denning, WOODBURY 1216.—*H. o. texana*, figures and notes on eggs, WERLER 1188.—*H. torquata torquata* from Costa Rica, TAYLOR, E. H. 1102.

Imantodes inornatus, fig.; *I. cenchoa semifasciatus*, fig.; *I. gemmistratus*, from Costa Rica, TAYLOR, E. H. 1102.

Lampropeltis blairi, second specimen recorded from Devils R. bridge, Val Verde Cnty., Texas; description, habits, plate, AXTELL 47.—*L. calligaster*, uncommon; *L. getulus holbrooki*, probably inhabits; *L. triangulum syspila*, rare, in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*L. calligaster*, in Tennessee, SINCLAIR 1015.—*L. calligaster calligaster*; *getulus holbrooki*; *doliata gentilis*, in Kansas, BREUKELMAN & CLARKE 144.—*L. doliata*, rediscovery and range extension in Arizona, TANNER 1097.—*L. d. annulata*, on "combat" behaviour, SHAW 999.—*L. d. blanchardi* from Guerrero, Mexico, HALL, C. W. 435.—*L. d. triangulum*, from Green Cnty., Ohio, DUELLMAN 277.—From Ontario,

EVANS, H. E. & ROECKER 310.—*L. d. polyzona*, *L. d. gaigae*, Costa Rican form probably *micropholis*; *L. d. micropholis* fig. from Costa Rica, TAYLOR, E. H. 1102.—*L. getulus* serum used to neutralize *Crotalus* and *Akistrodon* venom, PHILPOT & SMITH, R. G. 853.—*L. g. getulus*, on reproduction and egg development, KNEPTON 575.—*L. g. yumensis*, from Arizona, HENSLEY 469.—*L. g. splendida*; *L. doliata annulata* picture ♀ and eggs; notes on eggs, WERLER 1188.—*L. g. getulus*, *L. triangulum temporalis* × *elapsoides* intergrades, from Virginia, WERLER & McCALLION 1189.—*L. multicincta*, *L. getulus boylii*, *L. g. californiae*, of Santa Ana Mts., California, PEQUEGNAT 837.—*L. triangulum triangulum*, additional Wisconsin records, DICKINSON 269.—From Lebanon Cnty., Penn., HEILMAN 460.

Leimadophis taeniurus juvenalis from Costa Rica, TAYLOR, E. H. 1102.

Leptodeira on Costa Rican forms, key; *L. nigrofasciata*; *L. rubricata*; *L. annulata annulata*, fig.; *L. ocellata*; *L. rhombifera*; *L. maculata*, TAYLOR, E. H. 1102.—*L. maculata* from Guerrero, Mexico, HALL, C. W. 435.

Leptodrymus pulcherrimus, from Costa Rica, TAYLOR, E. H. 1102.

Leptognathus semicinctus, on type locality, DUNN & STUART 284.

Leptophis ahaetulla, fig., of Venezuela, RÖHL 920.—*L. occidentalis nigromarginatus*, of Peru, TITSCHACK 1119.

Liophis cobella taeniogaster; *L. poecilogyryx xerophilus*; *L. genimaculata*; *viridis*, *reginae*, from Brazil, SCHMIDT & INGER 973.—*L. cobella* from Costa Rica, TAYLOR, E. H. 1102.

Lycodon aulicus, *fasciatus*, *laeosis*, *subcinctus*, of Thailand, SUVATTI 1087.

Lycophidion capense capense from Tanganyika T., note on coastal intermediates, LOVERIDGE 652.—*L. capense*, *L. laterale*, *L. semicinctum*, from Cameroons, MONARD 730.—*L. semicinctum*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Lygophis lineatus from Brazil, SCHMIDT & INGER 973.

Lytorhynchus diadema, in Palestine, HAAS, G. 426.—*L. ridgewayi*, from Iran and note on *L. gabrielis*, WETTSTEIN & LÖFFLER 1193.

Macropisthodon flaviceps, rhodomelas, of Thailand, SUVATTI 1087.

Macroprotodon cucullatus, in Palestine, HAAS, G. 426.

Malpolon monspessulana insignitus, in Palestine, HAAS, G. 426.—From Iran, WETTSTEIN & LÖFFLER 1193.—*M. moilensis*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Masticophis flagellum flagellum, single record in Kansas, BREUKELMAN & CLARKE 144.—First record for Illinois, SMITH, P. W. & BURGER 1042.—*M. flagellum piceus*, from Arizona; *M. bilineatus lineolatus*, **subsp. nov.**, Alamo Canyon, north branch, Ajo Mtns., 12.9 miles S. and 5 miles E. of Ajo-Tucson-Sonoyta junction, Organ Pipe Cactus Nat. Monument, Pima Cnty., Arizona, p. 272 fig.; *M. bilineatus bilineatus*, fig., Trans. Kansas Acad. Sci. 53 1950, HENSLEY, M. M. 469.—*M. flagellum testaceus*; *M. mentovarius mentovarius*, picture of egg; notes on eggs, WERLER 1188.—*M. flagellum lineatus* from Guerrero, Mexico, HALL, C. W. 435.—*M. mentovarius* from Costa Rica, TAYLOR, E. H. 1102.—*M. taeniatus taeniatus*, observations on denning; age and growth relationship; sex ratios of winter populations; temperature records, WOODBURY 1216.

Mehelya capensis capensis from Tanganyika T., LOVERIDGE 652.—*M. guirali*, from Camerouns, MONARD 730.

Meizodon coronata camerunensis, **var. nov.**, p. 161; from Congo to Ouganda; *M. regularis*, from Camerouns, Mem. Inst. franç. Afr. noire, Centre de Cameroun, Sci. nat. No. 1 1951, MONARD, A. 730.—*M. coronatus*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

Micrelaps muelleri, in Palestine, HAAS, G. 426.

Natrix, on 9 Thailand species, SUVATTI 1087.—Development of medial wall of forebrain, KÄLLÉN 545.

Natrix compressicauda, salt water association in Cuba, SCHMIDT 969.

Natrix erythrogaster, histology of motor end-plates, COLE 222.—Third record from Maryland, Austro-Parian Zone, MEANLEY 698.—*N. e. erythrogaster* from Virginia, WERLER & McCALLION 1189.—*N. e. transversa*, in Kansas,

BREUKELMAN & CLARKE 144.—Found in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.

Natrix fuliginoides, from Cameroon, MONARD 730.

Natrix grahamii, in Kansas, BREUKELMAN & CLARKE 144.

Natrix kirtlandii, from Greene Cnty., Ohio, DUELLMAN 277.

Natrix maura, morphology, distribution, sex-conditions, behaviour in captivity, figs., LEDERER 623.

Natrix natrix, investigation, and experimental study, of eye, figs., ARMSTRONG 43.—Experimental development of early embryos *in vitro*, BELLAIRS, R. 83.—Structure of eye nerve system; On nerve structure, CONTU 228, 229.—On respiration consumption, KAYSER 558.—Outside structure of eye, MENNER 703.—In Reims area, France, MENU 704.—Records on Bookham Common, Surrey, PANCHEN 818.—On marine association, SCHMIDT 969.—In Norway, SOOT-RYEN 1050.—Of Finland, SUOMALAINEN & VOIPIO 1086.—Of Hanover, TENIUS 1106.—*Natrix natrix natrix*, distribution in Dorset, DALTON 250.—Records in Denmark, PFAFF 852.—*N. n. helvetica*, figs., col. pl., of Britain, ecology, SMITH, M. A. 1038.—*N. n. persa*, from Iran, WETTSTEIN & LÖFFLER 1193.

Natrix piscator piscator, from Manipur State, Assam, ACHARJI & KRIPALANI 8.

Natrix (Rhabdophis) platyceps, first record from Nepal, 5,000 ft., SMITH, M. A. 1041.

Natrix rhombifera rhombifera, in Kansas, BREUKELMAN & CLARKE 144.

Natrix rigida, range notes in Texas, CURTIS & TINKLE 246.—Probably limited in Texas, to pine-hardwood forests of E., LIVEZEY 643.

Natrix septemvittata, from Greene Cnty., Ohio, DUELLMAN 277.

Natrix sipedon, corporea lutea; on oviparity modified to viviparity, BRAGDON 121.—On Drummond Id., Michigan, MANVILLE 681.—*N. s. sipedon*, in Kansas, BREUKELMAN & CLARKE 144.—Common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Observed in Wisconsin, DICKINSON

269.—From Greene Cnty., Ohio, DUELLMAN **277.**—From Ontario, EVANS, H. E. & ROECKER **310.**—From Lebanon Cnty., Penn., HEILMAN **460.**—From Virginia, WERLER & McCALLION **1189.**—*N. s. clarkii*, *N. s. compressicauda*, in salt-marsh and mangrove-swamps in Florida, SCHMIDT **969.**—*N. s. confluentis*, notes on birth, WERLER **1188.**—*N. s. insularum*, notes on food and reproduction of Pelee Id., Lake Erie, Ontario, specimens, HAMILTON **442.**

Natrix stolata, from Manipur State, Assam, ACHARJI & KRIPALANI **8.**

Natrix subminiata, observations on behaviour, reaction to noise, movement, etc., WEEL **1184.**

Natrix taxispilota from Virginia, WERLER & McCALLION **1189.**

Natrix tessellatus, in Palestine, HAAS, G. **426.**—From Iran, WETTSTEIN & LÖFFLER **1193.**

Natrix viperinus, in Reims area, France, MENU **704.**

Neoparis bicolor from Costa Rica, TAYLOR, E. H. **1102.**

Neustrophis olivaceus uluguruensis, from Tanganyika T., includes 2nd & 3rd mainland records with 15 mid-body scales, LOVERIDGE **652.**

Ninia on Costa Rican forms, key ; *N. sebae sebae* ; *N. atrata* ; *N. maculata*, fig. ; *N. tessellata*, fig. ; *N. psephota* ; *N. oxynota*, fig. ; TAYLOR, E. H. **1102.**—*N. sebae sebae*, from San Lucas Camotlan, Oaxaca, and colour notes, SHANNON **998.**

Nothopsis torresi **sp. nov.**, from Morehead Finca, 5 miles S.W. of Turrialba, Costa Rica, fig., Univ. Kansas Sci. Bull. **34** 1 1951 p. 31, TAYLOR, E. H. **1102.**

Oligodon albocinctus, from Manipur State, Assam, ACHARJI & KRIPALANI **8.**—*O. erythrogaster* from Nepal, 5,000 ft., SMITH, M. A. **1041.**—*O. melanocephalum*, in Palestine, HAAS, G. **426.**

Opheodrys aestivus, range extended Southward, nr. Tampico, Tamaulipas, CONANT **226.**—From Virginia, WERLER & McCALLION **1189.**—*O. doriae*, from Manipur State, Assam, ACHARJI & KRIPALANI **8.**—*O. vernalis*, development of eggs in captivity, LE BUFF **618.**—On Drummond Id., Michigan, MANVILLE

681.—*O. v. vernalis*, additional Wisconsin records, DICKINSON **269.**—From Ontario, EVANS, H. E. & ROECKER **310.**—First record from Lebanon Cnty., Penn., HEILMAN **460.**

Ophis merremii, of Venezuela, RÖHL **920.**

Opisthotropis spenceri, of Thailand, SUVATTI **1087.**

Oxybelis auratus from Guerrero, Mexico, HALL, C. W. **435.**—*O. acuminatus*, fig., of Venezuela, RÖHL **920.**—*O. aeneus*, *argenteus*, from Brazil, SCHMIDT & INGER **973.**—*O. fulgidus* ; *O. brevirostris*, fig., *O. aeneus*, from Costa Rica, TAYLOR, E. H. **1102.**

Oxyrhopus trigeminus from Brazil, SCHMIDT & INGER **973.**

Passerita xanthozonia, of Thailand, SUVATTI **1087.**

Philodryas burmeisteri, habits in Patagonia, KRIEG **581.**—*P. olfersii*, *nattereri*, from Brazil, SCHMIDT & INGER **973.**

Philothamnus, synopsis, species key ; *P. heterodermis ruandae*, **subsp. nov.**, Bull. Mus. Hist. nat. Belg. **27** 37 1951 p. 2, LOVERIDGE, A. **653.**—*P. irregularis battersbyi*, **subsp. nov.**, for N.E. population, Type from Sipi Forest, 6,000 ft., Mt. Elgon, E. Uganda, Paratypes from Uganda, Kenya Colony, Tanganyika T., Bull. Mus. comp. Zool., Harvard **106** 1951 p. 190, LOVERIDGE, A. **652.**—*P. nitidus*, from N. Africa in I.F.A.N. in 1950, VILLIERS **1165.**—*P. semivariegatus*, from Cameroons, MONARD **730.**—*P. s. semivariegatus*, from Tanganyika T., LOVERIDGE **652.**

Phyllorhynchus browni browni, from Arizona and Sonora 1st record ; *P. b. lucidus*, from Arizona, range extended ; *P. decuratus nubilus*, from Arizona and Sonora ; *P. d. perkinsi* from Arizona, range extended, HENSLEY **469.**—*P. decurtatus norrisi*, **subsp. nov.**, from 45.1 miles S. of Santa Ana, Sonora, Herpetologica **7** 1951 p. 181, SMITH, H. M. & LANGEARTEL **1033.**

Pituophis catenifer affinis, from Arizona and Sonora, HENSLEY **469.**—*P. c. annectens* of Santa Ana Mts., California, PEQUEGNAT **837.**—*P. c. deserticola*, observations on denning, WOODBURY **1216.**—*P. c. sayi*, in Kansas, BREUKELMAN & CLARKE **144.**—Note on W. Illinois den, SCHRODER **981.**—*P. deppei*

lineaticollis, from Guatemalan Plateau, STUART 1084.—*P. melanoleucus ruthveni*, in E. Texas, photo, of specimen; proposition that pine snakes and bull snakes be regarded as one species and that *catenifer* becomes a subspecies; with forms listed as:—*P. m. affinis*; *m. annectens*; *m. bimaris*; *m. catenifer*; *m. coronalis*; *m. deserticola*; *m. fuliginatus*; *m. insularis*; *m. lodingi*; *m. melanoleucus*; *m. mugitus*; *m. ruthveni*; *m. sayi*; *m. vertebralis*, SMITH, H. M. & KENNEDY 1032.—*P. m. melanoleucus*, *P. m. annectens*; courtship and "combat" behaviour, figs., SHAW 999.—*P. sayi sayi*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Specimen active in Kansas during December, McDOWELL 665.

Pliocercus dimidiatus from Costa Rica; *P. annellatus*, **sp. nov.**, from Morehead Finca, 5 miles S.W. of Turrialba, Costa Rica, Univ. Kansas Sci. Bull. 34 1 1951 fig., TAYLOR, E. H. 1102.

Prosymna pitmani, **sp. nov.**, from Kilwa, S. Province, Tanganyika T., p. 828, *P. ambigua stuhlmanni*, note on colour variation, Ann. Mag. nat. Hist. (12) 4 1951, BATTERSBY 75.—*P. ambigua stuhlmanni* from Tanganyika T., LOVERIDGE 652.

Psammodynastes pulverulentus, of Thailand, SUVATTI 1087.

Psammophis biserialatus from Asile, *P. punctulatus* from Elolo, *P. sibilans* from Murle, Abyssinia, SCORTECCI 986.—? *P. condanarus*, of Thailand, SUVATTI 1087.—*P. elegans*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*P. schokan*, in Palestine, HAAS, G. 426.—*P. sibilans sibilans*, from Cape Verde Ids. (Sal), DEKEYSER & VILLIERS 258.—From Cameroons, MONARD 730.—Fig., from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*P. subtaeniatus sudanensis*, from Tanganyika T., LOVERIDGE 652.

Pseudoboa cloelia, fig., of Venezuela, RÖHL 920.—*P. cloelia*, *P. petola*, of Peru, TITSCHACK 1119.—*P. guerini* from Brazil, SCHMIDT & INGER 973.

Pseudorabdion longiceps, of Thailand, SUVATTI 1087.

Pseudoxenodon inornatus buttikoferi, **subsp. nov.**, from Liang Kulung, C. Borneo, Proc. Kon. ned. Akad. Wet.

Amst. (C) 54 1 1951 p. 1, BRONGERSMA, L. D. & HELLE, W. 152.—! *P. macrops*, of Thailand, SUVATTI 1087.

Pseustes poecilonotus chrysobronchus; *P. shropshirei*, from Costa Rica, TAYLOR, E. H. 1102.—*P. p. poecilonotus*, on type locality, DUNN & STUART 284.

Ptyas korros, from Manipur State, Assam, ACHARJI & KRIPALANI 8.—*P. korros*, *mucosus*, *spinalis*, of Thailand, SUVATTI 1087.

Rhadinaea on Costa Rican forms, key; *R. serperastris*; *R. calligaster*; *R. decorata decorata*, fig.; *R. pulveriventris*; *R. vermiculaticeps*; *R. persimilis*; *R. pachyura pachyura*; *R. p. decipiens*, TAYLOR, E. H. 1102.—*R. lachrymans*, *R. godmani*, from Guatemalan Plateau, STUART 1084.

Rhamphiophis oxyrhynchus, from Cameroons, MONARD 730.—From N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*R. rubropunctatus* from Gondaraba, Abyssinia, SCORTECCI 986.

Rhinobothryum bovallii, from Costa Rica, TAYLOR, E. H. 1102.

Rhinocheilus lecontei lecontei; *R. antonii clarus*, from Arizona, HENSLEY 469.—*R. l. lecontei* of Santa Ana Mts., California, PEQUEGNAT 837.

Salvadora grahamiae lineata, specimens from Texas, RAMSEY 887.—*S. g. virgulata* of Santa Ana Mts., California, PEQUEGNAT 837.—*S. hexalepis hexalepis*, from Arizona and Sonora, HENSLEY 469.—*S. mexicana* from Guerrero, Mexico, HALL, C. W. 435.

Scaphiodontophis venustissimus from Costa Rica, TAYLOR, E. H. 1102.

Scaphiophis albopunctatus, from Cameroons, MONARD 730.

Scolecophis atrocinctus, from Costa Rica, TAYLOR, E. H. 1102.

Sibon, on status, comparison and relationship with *Dispas*, evolution, DUNN 282.—*S. nebulatus* from Costa Rica, TAYLOR, E. H. 1102.

Sibynomorphus mikanii fasciatus from Brazil, SCHMIDT & INGER 973.

Sibynophis collaris, *geminatus*, of Thailand, SUVATTI 1087.

Simotes, on 9 Thailand species, SUVATTI 1087.

Sonora michoacanensis michoacanensis from Guerrero, Mexico, HALL, C. W. **435**.

Spalerosophis diadema, d. subsp.?, in Palestine, HAAS, G. **426**.

Spilotes pullatus, fig., of Venezuela, RÖHL **920**.—*S. p. pullatus* from Brazil, SCHMIDT & INGER **973**.—*S. p. pullatus*, *S. p. mexicanus* from Costa Rica, TAYLOR, E. H. **1102**.

Stenorrhina degenhardtii degenhardtii; *S. d. apiata*; *S. freminwillii freminwillii*; from Costa Rica, TAYLOR, E. H. **1102**.—*S. freminwillii lactea*, on type locality, DUNN & STUART **284**.—From Chiapas, Mexico, SMITH, P. W. & H. M. **1046**.

Storeia dekayi, additional Wisconsin records, DICKINSON **269**.—First record from Lebanon Cnty., Penn., HEILMAN **460**.—*S. dekayi dekayi*, from Greene Cnty., Ohio, DUELLMAN **277**.—*S. d. dekayi*, *S. occipitomaculata occipitomaculata* from Virginia, WERLER & McCALLION **1189**.—*S. dekayi texana*, in Kansas, BREUKELMAN & CLARKE **144**.—Range includes Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—*S. occipitomaculata*, on Rogg Id., and Drummond Id., Michigan, MANVILLE **681**.—Note on intimidation display of Ontario specimen, WARBURTON **1179**.—*S. o. occipitomaculata*, from Ontario, EVANS, H. E. & ROECKER **310**.—*S. storerioides* from Guerrero, Mexico, HALL, C. W. **435**.

Tantilla, on Costa Rican forms, key; *T. annulata*, fig.; *T. armillata*, possibly a subspecies of *melanocephala*; *T. reticulata*; *T. virgata*; *T. schistosa*; *T. ruficeps*, TAYLOR, E. H. **1102**.—*T. eisenii* of Santa Ana Mts., California, PEQUEGNAT **837**.—*T. gracilis*, found in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—*T. gracilis hallowelli*, in Kansas, BREUKELMAN & CLARKE **144**.—An Illinois record, SMITH, P. W. & BURGER **1042**.—*T. nigriceps nigriceps*, distribution and variation in Nebraska, LOOMIS & JONES **648**.—*T. n. fumiceps*, notes on specimens in Lower Rio Grande valley, Texas, BROWN **155**.—*T. phrenitica* from Camotlán, Oaxaca, and colour notes, SHANNON **998**.—*T. triseriata*, sp. nov., from Coatlán, Oaxaca, Mexico, Proc. biol. Soc. Wash. [[1951 p. 97 fig., SMITH, H. M. & SMITH, P. W. **1036**.

Tarbophis savignyi; *guentheri*; *nigriceps*, in Palestine, HAAS, G. **426**.—*T. semiannulatus semiannulatus*, from Tanganyika T., LOVERIDGE **652**.—*T. variegatus*, from Cameroons, MONARD **730**.—From N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Thalerophis on Costa Rican forms, key; *T. mexicanus mexicanus*; *T. depressirostris*; *T. nebulosus*; *T. richardi occidentalis*, TAYLOR, E. H. **1102**.—*T. occidentalis praestans*, on type locality, DUNN & STUART **284**.—*T. richardi richardi* from Brazil, SCHMIDT & INGER **973**.

Thamnophis, neurosecretion and parathyroid, figs., SCHARRER **962**.—*Thamnophis* sp., pituitary, circulation and nerves, GREEN **409**.—*Thamnophis brachystoma* see *butleri*, CONANT **225**.

Thamnophis butleri, additional Wisconsin records, DICKINSON **269**.—From Greene Cnty., Ohio, DUELLMAN **277**.—On taxonomic status, *radix*, *butleri*, *brachystoma*, possibly descended from same stock, but sufficiently different to be now considered distinct species, CONANT **225**.

Thamnophis chrysocephalus from Guerrero, Mexico, HALL, C. W. **435**.—From San Lucas Camotlán, Oaxaca, colour notes, SHANNON **998**.

Thamnophis elegans, relationships discussed, two ecological groups of subspecies. 1. The aquatic group composed of:—*T. e. atratus*; *T. e. aquaticus*, subsp. nov., p. 493, type locality: Dillon Beach, Marin Cnty., California; *T. e. gigas*; *T. e. hydrophila*; *T. e. biscutatus*; *T. e. couchii*; *T. e. hammondi*; *T. e. digueti*. 2. The terrestrial group composed of:—*T. e. terrestris*, subsp. nov., p. 499, type locality: Strawberry Canyon, Berkeley, Alameda Cnty., California; *T. e. elegans*; *T. e. hueyi*; *T. e. vagrans*; *T. e. nigrescens*; distribution, variation in colour, size, scutellation discussed and charted, Univ. Calif. Publ. Zool. **50** 1951, Fox, W. **351**.—*T. elegans vagrans*, locality records on Mission Mtns., Montana, BRUNSON & DEMAREE **161**.—Comparative study of head muscles, COWAN & HICK **238**.—Ecology of Puget Sound, Washington populations, HEBARD **458**.

Thamnophis eques eques from Guerrero, Mexico, HALL, C. W. **435**.—*T. eques*

cyrtopsis, from Arizona, HENSLEY 469.—*T. eques fulvus*, from Guatemalan Plateau, morphological variation chart, STUART 1084.

Thamnophis marcianus marcianus; notes in birth, WERLER 1188.—*T. marcianus nigrolateris*, first record from Baja, California, Mexico, BRATTSTROM 139.

Thamnophis ordinatus, see *sirtalis*, DOWLING 273.—*T. o. parietalis*, in Kansas, BREUKELMAN & CLARKE 144.—Locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—New record, Wades Swamp, nr. Artesia, New Mexico, BUNDY 168.—*T. o. pickeringi*, *T. o. tetrataensis*, on intergradation in Puget Sound region, colour patterns, pls., HEBARD 457.

Thamnophis ordinoides, observations on colour pattern in Puget Sound region, pls.; Ecology of Puget Sound, Washington populations;—Notes on life history, HEBARD 457, 458, 459.—*T. o. ordinoides*, comparative study of head muscles, COWAN & HICK 238.—*T. ordinoides hammondi* of Santa Ana Mts., California, PEQUEGNAT 837.—*T. o. vagrans*, of Elk Mtns., Colorado, BLAIR 97.—From New Mexico, CHENOWETH 208.

Thamnophis radix, not common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*T. radix*, see *butleri*, CONANT 225.—*T. radix haydenii*, in Kansas, BREUKELMAN & CLARKE 144.

Thamnophis sauritus, see *sirtalis*, DOWLING 273.—*T. s. sauritus*, new record from Nova Scotia, Lake Kejimikujik area, BLEAKNEY 100.—Observed in Wisconsin, DICKINSON 269.—From Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty., Penn., HEILMAN 460.—From Virginia, WERLER & McCALLION 1189.—*T. s. proximus*, records in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.

Thamnophis sirtalis, corporea lutea; on oviparity modified to viviparity, BRAGDON 121.—Practical solution to the confusion of dual usage; *sirtalis* to be suppressed; *Th. ordinatus* for common gartersnake and *Th. sauritus* for ribbon snake, DOWLING 273.—On Little Rogg Id., and Drummord Id., Michigan, MANVILLE 681.—From Sault Ste. Marie region, Ontario, WARBURTON 1178.—*T. s. sirtalis*, from

Ontario, EVANS, H. E. & ROECKER 310.—Food and feeding in New York State, HAMILTON 441.—From Lebanon Cnty., Penn., HEILMAN 460.—Observed eating *Anolis* in captivity, ORLEB 806.—Population density on Penikese Id., Mass., SEIBERT 989.—From Virginia, WERLER & McCALLION 1189.—*T. s. annectens*, notes on birth, WERLER 1188.—*T. s. sirtalis*, *Th. s. parietalis*, additional Wisconsin records, DICKINSON 269.—*T. s. parietalis*, common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*T. sirtalis fitchi*, **nom. nov.**, for race inhabiting the great valleys of California between the coast ranges and the Sierras, but extending through the Sierras into W. Nevada; reaching the coast only in N. Humboldt and Del Norte counties, California and S. Oregon; through E. Oregon and Washington into Idaho and N. into British Columbia; description given, COPEIA 1951 p. 264, Fox, W. 350.—*T. s. pickeringi*, *T. s. tetrataenia*, ecology of Puget Sound, Washington populations, HEBARD 458.—*T. sirtalis chalcus* from Costa Rica, TAYLOR, E. H. 1102.—*T. s. proximus*, in Kansas, BREUKELMAN & CLARKE 144.—*T. s. tetrataenia*, status discussed; type locality originally stated as "Banks of Pit River, California" in error and should be San Francisco peninsula; range:—W. San Francisco peninsula, San Francisco Cnty. line south along hill crests to Crystal Lake, along coast west to region south to Point Año Nuevo, San Mateo Cnty., California; description given, Fox, W. 350.—*T. s. tetrataenia* (*T. elegans vagrans*, *T. o. ordinoides*), comparative study of head muscles, COWAN & HICK 238.—*Thamnophis sumichrasti praeocularis*, on type locality, DUNN & STUART 284.

Tomodon dorsatus, note on birth in terrarium, fig., ERNST 307.

Tretanorhinus nigroleuteus nigroleuteus from Costa Rica, TAYLOR, E. H. 1102.—*T. nigroleuteus lateralis*, on type locality, DUNN & STUART 284.—*T. variabilis*, from Cuba, ALOYO 17.

Trimerorhinus triaeniatius, on effect of bite, food, habits, photo., MILLER, W. T. 722.

Trimetopon on Costa Rican forms, key; *T. plioepis*; *T. viquezi*; *T. simile*; *T. gracile*, TAYLOR, E. H. 1102.

Trimorphodon biscutatus biscutatus from Costa Rica, TAYLOR, E. H. 1102.—*T. biscutatus semirutus*, notes on courting and eggs, WERLER 1188.—*T. lambda*, from Arizona, HENSLEY 469.—*T. latifascia*, from Guerrero, Mexico, previous range was Morelos and S.E. Puebla, HALL, C. W. 435.—*T. vandenburghi* of Santa Ana Mts., California, PEQUEGNAT 837.

Tropidoclonion lineatum, in Kansas, BRUKELMAN & CLARKE 144.—Present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.

Tropidodipsas carri, **sp. nov.**, from Escuela Agrícola Panamericana, nr. Tegucigalpa, Honduras; related to *T. fischeri*, Copeia 1951 p. 52, SHREVE, B. 1003.—*T. fischeri*, from Guatemalan Plateau; morphological variations, STUART 1084.—*T. sartorii annulatus*, on type locality, DUNN & STUART 284.

Tropidonotus, see under *Natrix*.

Virginia fasciata (= *Tropidodipsas fischeri*), on type locality, DUNN & STUART 284.

Xenodon bertholdi; *X. colubrinus*, from Costa Rica, TAYLOR, E. H. 1102.—*X. merremii* from Brazil, SCHMIDT & INGER 973.

Zamenis viridiflavus, ecology discussion BAUDRIMONT 76.

Zavays carinatus, of Thailand, SUVATTI 1087.

DASYPELTIDAE

Dasyzeltis scaber, from El Dire (Tertale), Abyssinia, SCORTECCI 986.

ELAPIDAE

Acanthophis antarcticus, note on venom danger to man, ORMSBY 807.

Bungarus candidus, *B. fasciatus*, on pulmonary artery, BRONGERSMA 150.—*B. candidus*, *fasciatus*, *flaviceps*, of Thailand, SUVATTI 1087.—*B. fasciatus*, influence of blood-sugar on venom, RAI 885.—*B. multicinctus*, observations on venom of Formosan specimens;—On venom, CHIN 213, 215.—Experiments on venom, FUJII 366.—Notes on venom of Formosan specimens, JINTETSU 531.—Cause of death through venom, OUYANG 814.—Venom therapeutics, RAI 886.—Statistics of

bite in Formosa, To 1120.—Experiments on venom, To & TIN 1124.—Effect of venom on rabbit liver, UKINO 1139.

Callophis melanurus melanurus, *C. melanurus sinhaleynus*, **subsp. nov.**, from Manampitiya, N.C. Province, Ceylon, Spolia Zeylan. 26 2 1951 p. 147, DERANIYAGALA 263.—*C. maculellandi formosensis*, statistics of bite in Formosa, To 1120.

Calliophis maculiceps, *gracilis*, *hughi*, of Thailand, SUVATTI 1087.

Demansia textilis, males fighting, figs., FLEAY 342.—*D. textilis*, *D. modesta*, notes on S. Australian specimens; *D. acutirostris*, **sp. nov.**, from an island, 28.26' S. × 137.24' E., Lake Eyre, S. Australia, Rec. S. Aust. Mus. 9 4 1951 p. 547 figs., MITCHELL, F. J. 727.—*D. psammophis*, *textilis*, note on venom danger to man, ORMSBY 807.

Dendroaspis angusticeps, *D. polylepis*, from Tanganyika T., notes on coloration and dispositions, LOVERIDGE 652.—*D. angusticeps*, fig., from El Dire (Tertale), Abyssinia, SCORTECCI 986.

Denisonia, on S. Australian species; *D. superba*; *coronata*; *coronoides*; *nigrostriata brevicauda*, **subsp. nov.**, from Fowler's Bay, S. Aust. (p. 550); *gouldii*; *flagellum*; *suta*; *brunnea*, **sp. nov.**, from Mount Wedge, nr. Elliston. W. coast of Eyre Penin., S. Australia (p. 551, figs.); *curta*, figs.; Rec. S. Aust. Mus. 9 4 1951, MITCHELL, F. J. 727.—*D. maculata*, *coronoides*, *signata*, *superba*, *nigrescens*, *nigrostriata*, *gouldi*, *ramsayi*, *suta*, note on venom danger to man, ORMSBY 807.—*D. coronata*, from Israelite Bay, W. Australia, SERVenty 994.—*D. par*; *woodfordii*, from Solomon Ids., TANNER 1096.

Furina annulata, note on venom danger to man, ORMSBY 807.—*F. annulata*, *bimaculata*, on S. Australian forms, MITCHELL, F. J. 727.

Hoplocephalus bitorquatus, *bungaroides*, note on venom danger to man, ORMSBY 807.

Maticora bivirgata, *intestinalis*, of Thailand, SUVATTI 1087.

Micropechis elapoides, Solomon Ids., records, TANNER 1096.

Micruroides euryxanthus, from Sonora, HENSLEY 469.—Of Texas, fig., notes on habits, range, etc., WERLER 1187.

Micrurus, on Costa Rican forms; key; *M. mipartitus multifasciatus*, fig.; *M. nigrocinctus nigrocinctus*, fig.; *M. n. mosquitensis*, fig.; *M. pachei*, **sp. nov.**, from Guanacaste, Costa Rica (p. 165); *M. clarki*; *M. alleni richardi*, **subsp. nov.**, from Los Diamantes, 2 km. S.E. of Guápiles, Costa Rica, (p. 169, fig.) Univ. Kansas sci. Bull. 34 1 1951, TAYLOR, E. H. 1102.—*M. affinis apiatus*, on type locality, DUNN & STUART 284.—*M. corallinus*, fig., of Venezuela, RÖHL 920.—*M. fulvius*, records in Indiana and Ohio, LINK 640.—*M. fulvius tenere*, of Texas, col. pl., notes on habits, range, etc.;—Notes on eggs, WERLER 1187, 1188.—*M. lemniscatus* from Brazil, SCHMIDT & INGER 973.

Naja hamadryas, *N. tripudians*, influence of blood-sugar on venom, RAI 885.—*N. hannah*, *naja*, of Thailand, SUVATTI 1087.—*N. nigricollis*, from Cameroons, MONARD 730.—From El Dire (Tertale), Abyssinia, SCORTECCI 986.—*N. nigricollis nigricollis*, from Tanganyika T., note on disposition, LOVERIDGE 652.—*N. nigricollis*; *melanoleuca*; *haje*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—*N. naja atra*, observations on venom of Formosan specimens; On venom, CHIN 213, 215.—Experiments on venom, FUJII 366.—Notes on venom of Formosan specimens, JINTETSU 531.—Study on venom, PENG 833.—Statistics of bite in Formosa, TO 1120.—Therapeutic experiments on venom and use in suppressing pain, TO & UEI 1122.—Therapeutic use of venom and use in pain suppression, TO & OH 1123.—Chemical study of venom, UEDA, SASAKI & PENG 1138.—Effect of venom on rabbit liver, UKINO 1139.—*N. naja kaouthia*, from Manipur State, Assam, ACHARJI & KRIPALANI 8.—*N. naja*, *N. nivea*, on venom, FLECKENSTEIN & FETTIG 343.

Notechis scutatus, feeding habits, photo of attacking specimen, FLEAY 341.—Note on venom danger to man, ORMSBY 807.—*N. s. scutatus*, *N. s. var. niger*; *N. ater*, on S. Australian specimens, MITCHELL, F. J. 727.

Parapistocalamus hedigeri from Solomon Ids. (Bougainville), TANNER 1096.

Pseudechis, on S. Australian species; *P. porphyraeus*; *australis*; *microlepidotus* (record not confirmed), MITCHELL, F. J. 727.—*P. porphyraeus*, males fighting, figs., FLEAY 341, 342.—*P. microlepidotus*, *australis*, *cupreus*, *porphyraeus*, *mortonensis*, *ferox*, note on venom danger to man, ORMSBY 807.

Pseudelaps squamulosus, *krefftii*, *diadema*, note on venom danger to man, ORMSBY 807.

Rhynchoelaps australis, note on venom danger to man, ORMSBY 807.—*R. bertholdi*, *fasciolatus*, on S. Australian specimens, MITCHELL, F. J. 727.

Sepedon haemachates, on venom, FLECKENSTEIN & FETTIG 343.

Tropidechis carinatus, note on venom danger to man, ORMSBY 807.

Walterinnesia aegyptia, in Palestine, HAAS, G. 426.

HOMALOPSIDAE genera under COLUBRIDAE

HYDROPHIIDAE

General notes and list of Australian species, MACINNES 667.

Aipysurus eydouxii, of Thailand, SUVATTI 1087.

Enhydryna schistosa, on placentation, KASTURIRANGAN 552.—*E. schistosa*, *valakadyn*, of Thailand, SUVATTI 1087.

Hydrophis, on 15 species and subspecies of Thailand, SUVATTI 1087.—*H. cyanocinctus*, from Solomon Ids., TANNER 1096.

Kerelia jerdonii, *j. siamensis*, of Thailand, SUVATTI 1087.

Kolpophis annandalei, *anomalus*, of Thailand, SUVATTI 1087.

Lapemis hardwickii, SCHMIDT 969.—Of Thailand, SUVATTI 1087.

Laticauda, notes on use by man, SCHMIDT 969.—*L. colubrina*, *laticaudatus*, of Thailand, SUVATTI 1087.—*L. colubrina*; *crockeri*, from Solomon Ids., TANNER 1096.

Microcephalophis gracilis, *g. microcephalus*, of Thailand, SUVATTI 1087.

Pelamis platurus, of Thailand, SUVATTI 1087.—From Costa Rica, TAYLOR, E. H. 1102.

Pelamydrus platurus from Solomon Ids., TANNER 1096.

Thalassophina viperina, of Thailand, SUVATTI 1087.

LEPTOTYPHLOPIDAE

Leptotyphlops key to W. African species, figs., notes on following species, *boulti*, *macrohynchus*, *brevicauda*, *nairostris*, *sundevalli*, *bicolor* and subsp. *gruweli*, VILLIERS 1164.—*L. albifrons* from Brazil, SCHMIDT & INGER 973.—Of Costa Rica, TAYLOR, E. H. 1102.—*L. conjuncta conjuncta*, *L. longicauda*, from Tanganyika T., LOVERIDGE 652.—*L. emini*, from Murte, Abyssinia, SCORTECCI 986.—*L. hamulirostris*, from Iran, WETTSTEIN & LÖFFLER 1193.—*L. humilis cahuilae*, *L. h. humilis*, *L. h. humilis*—*cahuilae*, intergrades; notes on the natural history, food, parasites, etc., BRATTSTROM & SCHWENKMEYER 140.—*L. humilis humilis* of Santa Ana Mts., California, PEQUEGNAT 837.—Range extended in Arizona 150 miles S.W., HENSLEY 469.—*L. macrorhynchus*, in Palestine, HAAS, G. 426.—*L. maximus*, from Guerrero, Mexico, HALL, C. W. 435.—*L. nairostris boueti*; *bicolor bicolor*; *brevicauda*, from N. Africa in I.F.A.N. in 1950, VILLIERS 1165.

TYPHLOPIDAE

Typhlops key to W. African species, figs.; notes on following species, *punctatus*, *braminus*, *leucostictus*, *hallowelli*, *caecatus*, *caecus*, VILLIERS 1164.—On 7 Thailand species, SUVATTI 1087.—*Typhlops adamsi*, sp. nov. from Nalimbiu R., Guadalcanal, Solomon Ids., p. 64; *aluensis* (*philococos* is a synonym); *becki*; *olivaceus reduncus*; *cumingii mansuetus*; *infralabialis*; *bergi*; *solomonis*, from Solomon Ids., records; Gt. Basin Nat. 11 3-4 1951, TANNER 1096.—*T. diardi*, from Manipur State, Assam, ACHARJI & KRIPALANI 8.—*T. hallowelli*, from N. Africa in I.F.A.N. collection in 1950, VILLIERS 1165.—*T. jamaicensis*, of Jamaica, CAMPBELL 180.—*T. lumbricalis*, from Cuba, ALOYO 17.—*T. punctatus*, from N. Africa in I.F.A.N. collection 1950, VILLIERS 1165.—*T. p. punctatus*, from the Cameroons, MONARD 730.—*T. schlegelii mucroso*, *T. tetensis* ? *obtus* (first record from), from Tanganyika

T., LOVERIDGE 652.—*T. vermicularis, simoni*; in Palestine, HAAS, G. 426.

VIPERIDAE

On Costa Rican forms, keys, TAYLOR, E. H. 1102.

Agkistrodon acutus, on venom, CHIN 215.—Experiments on venom, FUJII 366.—Notes on venom of Formosan specimens, JINTETSU 531.—Effect of venom, KYU 590.—Statistics of bite in Formosa, TO 1120.—Effect of venom on rabbit liver, UKINO 1139.—*A. bilineatus taylori*, subsp. nov., from N. of Villagrán, Tamaulipas, Mexico; Univ. Kansas sci. Bull. 34 1 1951 p. 213 pl., BURGER, W. L. & ROBERTSON, W. B. 171.—*A. blomhoffii*, production of polyvalent antivenine, BURNS 173.—*A. blomhoffii, rhodostoma*, of Thailand, SUVATTI 1087.—*A. contortrix*, rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*A. contortrix, A. piscivorus*, on venom, FLECKENSTEIN & FETTIG 343.—*A. c. contortrix, A. c. mokasen, A. c. laticinctus, A. c. pictigaster, A. piscivorus leucostoma*, all of Texas, figs., notes on habits, range, etc., WERLER 1187.—*A. c. contortrix, A. piscivorus piscivorus*, from Virginia, WERLER & MCCALLION 1189.—*A. c. laticinctus*, notes on birth, WERLER 1188.—*A. c. mokeson*, in Kansas, BREUKELMAN & CLARKE 144.—On bites in Indiana, MINTON 726.—*A. mokasen mokasen*, from Lebanon Cnty., Penn., HEILMAN 460.—*A. piscivorus*, observations on captive specimens, growth, feeding, ecdysis, STABLER 1057.—Neutralization of venom by *Lampropeltis getulus* serum, PHILPOT & SMITH, R. G. 853.—*A. p. leucostoma*, life history, ARNY 44.—Northern record in Illinois, SMITH, P. W. & BURGER 1042.

Ammodytes ammodytes, on venom, FLECKENSTEIN & FETTIG 343.

Ancistrodon rhodostoma, influence of blood-sugar on venom, RAI 885.

Atheris squamiger, from Cameroons, MONARD 730.

Atractaspis engaddensis, in Palestine, HAAS, G. 426.—*A. bibronii*, from Tanganyika T., feeding note; *A. katangae* still to be a synonym of *bibronii*, *A. rostrata* also retained as synonym, for the time, of *bibronii*, LOVERIDGE 652.—*A. irregularis irregularis*, from Camer-

oons; *A. watsoni reiensis*, **var. nov.**, from Rei-Bouba, distribution, Soudanese, Mem. Inst. franç. Afr. noire. Centre de Cameroun. Sci. nat. No. 1 1951 p. 166, MONARD, A. **730**.—*A. dahomeyensis*; *watsoni*, from N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Bitis arietans, from Tanganyika T., note on courtship, LOVERIDGE **652**.—In terrarium, photo., SCHETTY **964**.—Figs., from Abyssinia, SCORTECCI **986**.—*B. arietans*, *B. gabonica*, *B. nasicornis*, notes on bites, treatment and results, CECCALDI, TRINQUIER, ARNOULT & PELLISSIER **198**.—*B. gabonica*, on coloration and subspecies, photos., MERTENS, R. **710**.—From Cameroons, MONARD **730**.—*B. lachesis*, from N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Bothrops, on species found in Venezuela, include *atrox*, *lansbergii*, *medusa* and *schlegelii*, the latter new for Venezuela, redescribed and with photographs, PIFANO, ROMER & MONTILLA **856**.—On Costa Rican forms, key; *B. schlegelii*; *B. lateralis*; *B. nigroviridis nigroviridis*; *B. nasuta*; *B. ophryomegas*; *B. lansbergii*; *B. atrox atrox*; *B. picadoi*; *B. nummifer nummifer*; *B. godmani*, TAYLOR, E. H. **1102**.—*B. atrox*, on venom, FLECKENSTEIN & FETTIG **343**.—Fig., of Venezuela, RÖHL **920**.—*B. godmani*, from Guatemalan Plateau; morphological variations, STUART **1084**.—*B. insularis*, note on skull fracture, figs., ANTHONY & SERRA **36**.—*B. jararaca*, observations on proteolytic action of venom on hemoglobin and casein substrates, AZEVEDO & MARTIRANI **48**.—Observation on proteolytic action of venom on a gelatine substrate, MARTIRANI & AZEVEDO **689**.—*B. jararacussu*, *B. jararaca*, from Alto Xingu, Brazil, CARVALHO **193**.—*B. neuwiedii*, *B. alternatus*, on iron content in venom, VIDAL BREARD **1161**.—*B. nummifer*, study of subspecies, *B. n. veraecrucis*, **subsp. nov.**, from Veracruz, Mexico, Bull. Chicago Acad. Sci. 9 3 1950 p. 65 fig., BURGER, W. L. **170**.—*B. nummifer veraecrucis* from San Lucas Camotlán, Oaxaca, colour notes and food, SHANNON **998**.—*B. Rodingeri*, **sp. nov.** Peru, Beiträge zur Fauna Perus, Bd. 1 Jena 1951 p. 67, TITSCHACK **1119**.—*B. schlegelii*, on restricted type locality, DUNN & STUART **284**.

Causus resimus from Asile, Abyssinia, SCORTECCI **986**.—*C. rhombeatus*, from Cameroons, MONARD **730**.—From N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Cerastes cerastes, in Palestine, HAAS, G. **426**.—From Tibesti, Libya, SCORTECCI **985**.—From N. Africa in I.F.A.N. in 1950, VILLIERS **1165**.

Crotalus adamanteus, neutralization of venom by *Lampropeltis getulus* serum, PHILPOT & SMITH, R. G. **853**.—*C. adamanteus*, *atrox*, *viridis*, *atricaudatus*, *terrificus*, *horridus*, *basiliscus*, on venoms, FLECKENSTEIN & FETTIG **343**.—*C. atrox*, coloration of specimens from lava country, Mexico, LEWIS **633**.—*C. atrox*; *C. cerastes laterorepens*; *C. molossus molossus*, from Arizona; *C. scutulatus scutulatus*, from Arizona and Sonora, HENSLEY **469**.—*C. atrox*, *C. horridus atricaudatus*, *C. lepidus lepidus*, *C. l. klauberi*, *C. molossus molossus*, *C. scutulatus scutulatus*, *C. viridis viridis*, of Texas, figs., notes on habits, range, etc., WERLER **1187**.—*C. atrox*; *C. lepidus lepidus*, fig. of ♀ *C. v. viridis*, notes on birth and embryos, WERLER **1188**.—*C. atrox*, *C. adamanteus*, on venom structure by ultraviolet spectrum absorption, HORTON **505**.—*C. cerastes*, observations on aggressive behaviour, LOWE & NORRIS **656**.—*C. concolor* and *decolor*, on correct trivial name; name available for Yellow Rattle-snake from Colorado River basin, is *decolor* Klauber 1930, *concolor* Woodbury 1929, is a homonym of *concolor* Garman 1883, WOODBURY & SMITH, H. M. **1215**.—*C. durissus*, fig.; on pulmonary artery, BRONGERSMA **150**.—[*C. h. horridus*], Massasauga from inland Ontario, Fox, W. S. **352**.—*C. horridus horridus*, found in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—First record from Lebanon Cnty., Penn., HEILMAN **460**.—On bites in Indiana, MINTON **726**.—*C. h. atricaudatus*, from Oklahoma, BRAGG **127**.—From Virginia, WERLER & MCCALLION **1189**.—*C. molossus molossus*, from New Mexico; *C. viridis viridis*, from New Mexico and Utah, CHENOWETH **208**.—*C. ruber*, *C. viridis oregonus*, *C. mitchellii pyrrhus*, of Santa Ana Mts., California, PEQUEGNAT **837**.—*C. terrificus*, fig., of Venezuela, RÖHL **920**.—Presence of iron in venom,

VIDAL BREARD 1161.—*C. t. terrificus*, fluorescence and photoinactivation of poison, FERRI & GUIDOLIN 327.—*C. t. durissus*, from Costa Rica, TAYLOR, E. H. 1102.—*C. viridis viridis*, increased rate of ecdysis caused by chiggers damaging a facial pit, LOOMIS 647.—*C. viridis helleri* ♂ × *C. r. ruber* ♀; *C. durissus unicolor* ♀ × *C. scutulatus scutulatus* ♀, on hybrids, PERKINS, C. B. 840.—*C. v. lutosus*, photo, account of a den in Utah; marking method; temperature records; sex ratios; egg production; growth and age; colour analysis; effect of venom injections in other specimens, WOODBURY 1216.

Echis carinatus from Gondaraba and Elolo, Abyssinia, SCORTECCI 986.—From N. Africa in I.F.A.N. in 1950, VILLIERS 1165.—From Iran, WETTSTEIN & LÖFFLER 1193.—*E. carinatus*, *E. carinatus sinhaleys*, **subsp. nov.**, from Chavakachcheri, Jaffna Pen., Ceylon, Spolia Zeylan 26 2 1951 p. 148, DERANIYAGALA 263.—*E. colorata*, in Palestine, HAAS, G. 426.

Lachesis muta, note on skull fracture, fig., ANTHONY & SERRA 36.—From Alto Xingu, Brazil, CARVALHO 193.—Fig., of Venezuela, RÖHL 920.—*L. m. stenophrys*, from Costa Rica, on colour and ventral counts is considered separable from *L. mutus*, TAYLOR, E. H. 1102.

Pseudocerastes fieldii, in Palestine, HAAS, G. 426.

Sistrurus catenatus catenatus, presence in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Additional Wisconsin records, DICKINSON 269.—From Greene Cnty., Ohio, DUELLMAN 277.—On bites in Indiana, MINTON 726.—*S. c. tergeminus*, in Kansas, BREUKELMAN & CLARKE 144.—From Texas, RAMSEY 887.—*S. c. tergeminus*, *S. miliarius streckeri*, of Texas, figs., notes on habits, range, etc., WERLER 1187.

Trimeresurus, on 6 Thailand species, SUVATTI 1087.—*Trimeresurus albolabris* from Nepal 5,000 to 9,000 ft., SMITH, M. A. 1041.—*T. flavoviridis*, influence of blood-sugar on venom, RAI 885.—Production of polyvalent antivenine, BURNS 173.—*T. gramineus*, on breeding and feeding, BAROVA 67.—*T. hypoprora*, description on third recorded specimen

from Brazil, HOGE 496.—*T. insularis*, from Queimada Grande Id., São Paulo, Brazil, with ecological notes, HOGE 497.—*T. mucrosquamatus*, notes on venom, CHIN 210, 211, 212, 214.—Relation between the change of blood-sugar fluctuation and the production of immune bodies;—Venom action on circulation and respiration, PENG 832, 834.—Venom therapeutics, RAI 886.—Effect of venom on rabbit carbohydrates, To & CHIN 1121.—Chemical study of venom, UEDA, SASAKI & PENG 1138.—*T. mucrosquamatus*, *T. gramineus*, on venom, CHIN 215.—Experiments on venom, FUJII 366.—Notes on venom of Formosan specimens, JINTETSU 531.—Effect of venom, KYU 590.—Statistics of bite in Formosa, To 1120.—Effect of venom on rabbit liver, UKINO 1139.—*T. wagleri*, on pulmonary artery, BRONGERSMA 150.

Vipera, case history of bite in France, CARRAUD 192.—*V. a. ammodytes*, photo., specimen from Kärnten, Austria, SOCHUREK 1047.—*V. a. ammodytes*; *a. meridionalis*; *a. montandoni*, methods of feeding and bite action, figs., WERNER, R. M. 1192.—*V. ammodytes*, *V. berus*, *V. aspis*, of Carinthia, Austria, PUSCHNIG 881.—*V. aspis*, ecology and ethology in France, GIRON 395.—Action of venom, LASFARGUES & FINE-LASFARGUES 609, 610.—In Reims area, France, MENU 704.—*V. aspis aspis*; *a. hugyi*, methods of feeding and bite action, WERNER, R. M. 1192.—*V. a. hugyi*, on population near to *V. a. aspis*, figs., SCHWEIZER 984.—*V. berus*, experimental development of early embryos *in vitro*, BELLAIRS, R. 83.—Sexual physiology, BULLOUGH 167.—From Alpine region, 1,000 m., Sorsele, Swedish Lapland, GAUNITZ 384.—Ecology and ethology in France, GIRON 395.—Effect of bite from British specimen, GODDARD 400.—In Reims area, France, MENU 704.—Bites by British specimens and effect on children, MITCHELL, R. G. 728.—Female, 28½ inches total length recorded in England, SMITH, M. A. 1040.—In Norway, SOOT-RYEN 1050.—Of Finland, SUOMALAINEN & VOIPIO 1086.—Of Hanover, TENIUS 1106.—*V. berus berus*, remarks on, distribution records in Dorset, photo., DALTON 250.—Records in Denmark, PFAFF 852.—Fig., col. pl., of Britain, ecology,

SMITH, M. A. 1038.—*V. berus berus*; *b. bosniensis*; *b. seoanei*, methods of feeding and bite action, figs., WERNER, R. M. 1192.—*V. berus seoanei*, on a specimen from Col de Gavarnie, French Pyrenees, DUGUY 278.—*V. lebetina*; *palaestina*; in Palestine, HAAS, G. 426.—*V. lebetina schweizeri* a distinct race for the Levante-Otter, Cyclades, MERTENS, R. 709.—*V. russellii*, influence of blood-sugar on venom, RAI 885.—*V. r. russelli*, from Manipur State, Assam, ACHARJI & KRIPALANI 8.—*V. russellii*, *r. siamensis*, of Thailand, SUVATTI 1087.—*V. r. formosensis*, study of venom, LEE 624.—Statistics of bite in Formosa, To 1120.—*V. ursinii*, ecology, figs., DREUX & GIRON 276.—Observations on venom, DUGUY 279.—Ecology and ethology in France, GIRON 395.—Ecology, WERNER 1191.

XENOPELTIDAE

Xenopeltis, on pulmonary artery, BRONGERSMA 151.—*X. unicolor*, fig.; on pulmonary artery, BRONGERSMA 150.—Of Thailand, SUVATTI 1087.

TESTUDINES

General : Recent.—On some type localities restricted by Smith & Taylor, DUNN & STUART 284.—Evolution survey, GREGORY, W. K. 412.—Of the Cameroons, MONARD 730.

Amyda emoryi, new record, Bitter Lakes, nr. Roswell, New Mexico, BUNDY 168.—*A. mutica*; *A. spinifera spinifera*, present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*A. spinifera*, enteron histology, BALLMER 60.—On Lake Wingra, Wisconsin, NOLAND 773.—*A. s. spinifera*, additional Wisconsin records, DICKINSON 269.—From Greene Cnty., Ohio, DUELLMAN 277.—*A. s. hartwegi* (*A. ferox hartwegi*), in Kansas, BREUKELMAN & CLARKE 144.

†*Anosteira manchuriana* **sp. nov.**, from Oligocene of Northeast Provinces, Manchuria, Fieldiana Geol. 10 3 1947 p. 13 fig., ZANGERL, R. 1227.

Batagur baska, egg laying, folk lore, LOCH 645.—Of Thailand, SUVATTI 1087.

Callagur picta of Thailand, SUVATTI 1087.

Caretta caretta, Charmouth beach, Dorset record, DALTON 250.—In Palestine, HAAS, G. 426.—Observed from Queimada Grande Id., São Paulo, Brazil, HOGE 497.—Of Thailand, SUVATTI 1087.—*C. caretta*, *C. kempi*, in Britain, SMITH, M. A. 1038.

†*Catapleura arkansan*, **sp. nov.** (p. 70), from Cretaceous of Arkansas, Geol. Series Chicago Mus. 8 11 1944 figs., SCHMIDT, K. P. 968.

†*Chelone mydas* (quoted as *Chelonia mydas*) in archaeological excavations in Fiji, GIFFORD, E. W. 392.—*Chelonia mydas*, in Palestine, HAAS, G. 426.—On breeding season in Borneo, HARRISSON 452.—Of no commercial importance at Arno Atoll, Marshall Ids., HIATT 478.—Observed from Queimada Grande Id., São Paulo, Brazil, HOGE 497.—Australian note, MACINNES 667.—Of Venezuela, RÖHL 920.—In Britain, SMITH, M. A. 1038.—Of Thailand, SUVATTI 1087.—Notes on fisheries, technique, etc., TRESSLER & LEMON 1133.—Of Jamaica, UNDERWOOD 1146.—*C. depressa*, Australian note, MACINNES 667.—*C. imbricata*, notes on fisheries, technique, etc., TRESSLER & LEMON 1133.

Chelydra serpentina, common in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Pituitary, circulation and nerves, GREEN 409.—From Dundas Marsh, Hamilton, Ontario, notes on nest, measurements of specimens, JUDD 539.—Use as food, TRESSLER & LEMON 1133.—*C. s. serpentina*, in Kansas, BREUKELMAN & CLARKE 144.—Additional Wisconsin records, DICKINSON 269.—From Greene Cnty. Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—From Lebanon Cnty, Penn., HEILMAN 460.—Notes on late summer movements, KLIMSTRA 571.—Of Lake Wingra, Wisconsin, NOLAND 773.—From Virginia, WERLER & MCCALLION 1189.

Chelys fimbriata, fig., of Venezuela, RÖHL 920.

Chitra indica, of Thailand, SUVATTI 1087.

Chrysemys, development of medial wall of forebrain, KÄLLÉN 545.—*C. bellii*, on Drummond Id., Michigan, MANVILLE 681.—*C. b. bellii*, Wisconsin

record, DICKINSON 269.—*C. picta*, pituitary, circulation and nerves, GREEN 409.—Effects of increased environmental temperatures on the concentration of blood reducing sugars, RAFTAZ 890.—*C. p. picta*, from Lebanon Cnty., Penn., HEILMAN 460.—From Virginia, WERLER & McCALLION 1189.—*C. p. bellii*, in Kansas, BREUKELMAN & CLARKE 144.—Present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Locality records on Mission Mtns., Montana, BRUNSON & DEMAREE 161.—*C. p. marginata*, enteron histology, BALLMER 60.—From Greene Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—Of Lake Wingra, Wisconsin, NOLAND 773.

Cinosternum cobanum, on type locality, DUNN & STUART 284.

Claudius pictus [*Staurotypus triporcatus*] on type locality, DUNN & STUART 284.

Clemmys caspica caspica, from Iran, WETTSTEIN & LÖFFLER 1193.—*C. c. rivulata*, in Palestine, HAAS, G. 426.—*C. guttata*, from Greene Cnty., Ohio, DUELLMAN 277.—From Ontario, EVANS, H. E. & ROECKER 310.—From Virginia, WERLER & McCALLION 1189.—*C. guttata*; *insculpta*; *muhlenbergii*, from Lebanon Cnty., Penn., HEILMAN 460.—*C. insculpta*, enteron histology, BALLMER 60.—Additional Wisconsin records, DICKINSON 269.—Photograph, SELCKMANN 991.—*C. japonicus*, ciliary movements of the oviduct, YAMADA 1225.—Structure of "metabolic chromosome", YASUZUMI, MIYAO, YAMAMOTO & YOKOYAMA 1226.—*C. marmorata* of Santa Ana Mts., California, PEQUEGNAT 837.—*C. rivulata*, experiments on the composition of the alveolar air, BASOGLU 73.

Colpochelys kempi, from Jamaica, UNDERWOOD 1146.

Cyclernys amboinensis, *dhor*, *mouhoti*, *siamensis*, of Thailand, SUVATTI 1087.

Deirochelys reticularia, specimens in terrarium, photo., KREFFT 580.

Dermatemys abnormis, on type locality, DUNN & STUART 284.

Dermochelys coriacea, Australian notes, MACINNES 667.—Captured at La Nouvelle, Aude, France, PETIT 848.—Records in Denmark, PFAFF 852.—Of Britain, SMITH, M. A. 1038.—Of

Thailand, SUVATTI 1087.—Of Jamaica, UNDERWOOD 1146.

Dogania subplana, of Thailand, SUVATTI 1087.

†*Emys orbicularis* from Pleistocene Tegelien Clay in Teyler Museum, Harlem, ALTENA, C. O. VAN R. 18.—*E. blandingii*, enteron histology, BALLMER 60.—Additional Wisconsin records, DICKINSON 269.—From Ontario, EVANS, H. E. & ROECKER 310.—Near Lake Wingra, Wisconsin, NOLAND 773.—*E. orbicularis*, protein catabolism, ANTONINO 39.—On respiration consumption, KAYSER 558.—Outside structure of eye, MENNER 703.—In Denmark, extinct, PFAFF 852.—Of Hanover, TENIUS 1106.—Septecemia due to *Clostridium oedematiens* and vaccine effect in Paris menagerie, URBAIN, DECHAMBRE & PIETTE 1147.—From Iran, WETTSTEIN & LÖFFLER 1193.—*E. venusta*, on type locality, DUNN & STUART 284.

Eretmochelys imbricata, in Palestine, HAAS, G. 426.—Probably occurs on Arno Atoll, Marshall Ids., HIATT 478.—Australian notes, MACINNES 667.—Of Venezuela, RÖHL 920.—In Britain, SMITH, M. A. 1038.—Of Thailand, SUVATTI 1087.—Of Jamaica, UNDERWOOD 1146.

Geoclemys subtrijuga, *macrocephala*, of Thailand, SUVATTI 1087.

Geoemyda areolata, on type locality, DUNN & STUART 284.—*G. punctularia*, from Brazil, SCHMIDT & INGER 973.

Graptemys geographica, enteron histology, BALLMER 60.—Additional Wisconsin records, DICKINSON 269.—From Ontario, EVANS, H. E. & ROECKER 310.—*G. g. geographica*, from Greene Cnty., Ohio, DUELLMAN 277.—*G. pseudogeographica pseudogeographica*, present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—*G. p. pseudogeographica*, *P. troosti*, note on specimens in terrarium, figs., REIJST 902.

Heosemys grandis, *spinosa*, of Thailand, SUVATTI 1087.

Hieremys annandalei, of Thailand, SUVATTI 1087.

†*Hydraspis arenarius* Rusconi and *Acrohydraspis* sp. from Miocene of Argentina, RUSCONI, C. 940.

Kinixys erosa, *K. homeana*, *K. belliana*, from Cameroons, MONARD 730.—*K. spekii* of El Dire (Tertale), Abyssinia, SCORTECCI 986.

Kinosternon flavescens flavescens, new record, Bitter Lakes, nr. Roswell, New Mexico, BUNDY 168.—In Kansas, BREUKELMAN & CLARKE 144.—*K. flavescens spooneri*, **subsp. nov.**, from Henderson County State Forest, 7 mls. N. of Oquawka, Illinois, Bull. Chicago Acad. Sci. 9 9 1951 p. 195 figs., SMITH, P. W. 1043.—*K. murrayi*, **sp. nov.**, from Harper Ranch., 37 miles S. of Marfa, Presidio Cnty., Texas (of *hirtipes* group), Copeia 1951 p. 50 figs., GLASS, B. & HARTWEG, N. 397.—*K. scorpioides*, from Brazil, SCHMIDT & INGER 973.—*K. subrubrum subrubrum* from Virginia, WERLER & MCCALLION 1189.

Lepidochelys kempii, notes on eggs, WERLER 1188.—*L. olivacea*, on mass movement, DERANIYAGALA 261.

Lissemys punctata granosa, description of skull, figs., PANDYA 819.

Macrochelys lacertina, use as food, TRESSLER & LEMON 1133.

Malaclemmys centrata; *pileata*; *p. macrospilota*, salt-water association in Florida, SCHMIDT 969.—*M. centrata*; *c. concentrica*; *macrospilota*; *pileata*; *littoralis*, notes on fisheries, economics, habits, etc., TRESSLER & LEMON 1133.—*M. centrata concentrica* from Virginia, WERLER & MCCALLION 1189.

Notochelys platynota of Thailand, SUVATTI 1087.

Pelochelys bibroni, of Thailand, SUVATTI 1087.

†Remains of ? two genera [Pelomedusidae] from Miocene of Colombia, SAVAGE, D. E. 957.—*Pelomedusa galeata*, from Cameroons, MONARD 730.—From Sagan, Abyssinia, SCORTECCI 986.

Pelusios derbianus, from Cameroons, MONARD 730.

†*Phyllemys* **gen. nov.** (p. 65); type species *P. barberi* **sp. nov.** (p. 66), from Cretaceous of Arkansas, Geol. Series Chicago Mus. 8 11 1944 figs., SCHMIDT, K. P. 968.

Platysternum megacephalum, of Thailand, SUVATTI 1087.

Podocnemis cayannensis, *expansa*, *unifilis*, of Venezuela, RÖHL 920.—*P. cayennensis*, *P. expansa*, from Alto Xingu, Brazil, CARVALHO 193.—*P. unifilis*, from Brazil, SCHMIDT & INGER 973.

Pseudemys decussata, from Cuba, ALOYO 17.—*P. floridana*, salt water association in Florida, SCHMIDT 969.—*P. floridana floridana*, *P. f. concinna*, *P. rubiventris rubiventris*, from Virginia, WERLER & MCCALLION 1189.—*P. scripta elegans*, in Kansas, BREUKELMAN & CLARKE 144.—*P. scripta troostii*, present in Fort Leavenworth Military Reservation, Kansas, BRUMWELL 158.—Effects of male hormone; and secondary sex characters, EVANS, L. T. 316.—*P. s. troosti*, *P. floridana texana*, new record, Bitter Lakes, nr. Roswell, New Mexico, BUNDY 168.—*P. terrapen*, from Jamaica, UNDERWOOD 1146.

†*Puppigerus* cf. *crassicostatus* (Owen) reconstructed and discussed (L. Eocene, N.W. Germany), STAESCHE, K. 1058.

Rhinemys nasuta, from Brazil, SCHMIDT & INGER 973.

Siebenrockiella crassicolis of Thailand, SUVATTI 1087.

Sternotherus odoratus, enteron histology, BALLMER 60.—Observed in Wisconsin, DICKINSON 269.—From Greene Cnty., Ohio, DUELLMAN 277.—From Lebanon Cnty., Penn., HEILMAN 460.—From Virginia, WERLER & MCCALLION 1189.

†Redescription of *Taphrosphys olssoni*, Eocene of Peru, ZANGERL, R. 1228.

Terrapene carolina, enteron histology, BALLMER 60.—Endocrines and secondary sex characters, EVANS, L. T. 315.—Captive specimen observed eating an *Anolis*, MEHRTENS 699.—*T. carolina carolina*, structure of reproductive organs, figs., ALTLAND 19.—Some effects of X-ray, ALTLAND, HIGHMAN & WOOD 21.—From Greene Cnty., Ohio, DUELLMAN 277.—Recorded age of 64+ years, in Ohio, EDNEY & ALLEN 296.—Male hormone effects upon claws of young, EVANS, L. T. 312.—Pituitary, circulation and nerves, GREEN 409.—From Lebanon Cnty., Penn., HEILMAN 460.—Recorded age of 50 years in Ohio, photo, PRICE 876.—Nil effect of DDT spraying on restricted area, STICKEL 1075.—From Virginia, WERLER & MCCALLION

1189.—*T. ornata*, in Kansas, BREUKELMAN & CLARKE **144**.—Considered rare in Fort Leavenworth Military Reservation, Kansas, BRUMWELL **158**.—New record, Bitter Lakes, nr. Roswell, New Mexico, BUNDY **168**.—First record for S. Indiana, LIST **641**.—Notes on habits, NORRIS & ZWEIFEL **776**.

Testudo, popular article and photographs on Galapagos, BLOMBERG **101**.—†*Testudo nova* sp. (Sic): ? *Testudo bolivari* in Pontian of Spain, CRUSAFONT PAIRO, M. & TRUYOLO SANTONJA, J. **243**.—*T. chilensis*, notes on habits in Patagonia, KRIEG **581**.—*T. denticulata*, from Brazil, SCHMIDT & INGER **973**.—*T. elephantopus*, study of social behaviour of captive herd, EVANS, L. T. & QUARANTA **317**.—*T. elongata*, *emys*, *impressa*, of Thailand, SUVATTI **1087**.—*T. graeca*, urine composition, ANTONINO **38**.—Experiments on the composition of the alveolar air, BASOĞLU **73**.—Note on tick parasitism, BRÜNNER **159**.—On nerve structure, CONTU **229**.—General habits, natural history notes, use as food by man, GUIBÉ **421**.—Outside structure of eye, MENNER **703**.—On liver, RICCIERI **913**.—On pigment in liver, SICHEL **1005**.—*T. graeca ibera*, *T. g. floweri*, in Palestine, HAAS, G. **426**.—*T. g. ibera*, *T. zarudnyi*, from Iran, WETTSTEIN & LÖFFLER **1193**.—†*T. hexagonata* and *T. lauticaudata*, Copes type in Univ. of Texas. *T. pertenuis* and *T. turgida* ? types in same colln., WILSON, J. A. **1198**.—*T. pardalis*, from Caschci, Abyssinia, SCORTECCI **986**.—†*T. primaeva*, sp. nov., from Miocene, Madison County, Montana. Carapace and plastron descr. and figd., Contr. Mus. Pal. Univ. Michigan, Ann. Arbor 8 4 1950 p. 44, OELRICH, T. M. **779**.—*T. radiata*, photo, note on sickness of captive, POPP **872**.—*T. radiata*, *T. elephantina*, septicemia due to *Clostridium oedematiens* and effect of vaccine on specimens in Paris menagerie, URBAIN, DECHAMBRE & PIETTE **1147**.—†*T. riggsi*, land turtle in Upper Pliocene of Kansas, HIBBARD, C. W. & RIGGS, E. S. **479**.—*T. sculpta*, of Venezuela, RÖHL **920**.—†*T. (Testudinites) sellowi* mentioned and figured, COUTO, CARLOS DE P. **237**.—†*T. vitodurana*, Carapace figd., Tortonian of Switzerland, HESCHELER, K. & KUHN, E. **477**.

Thalassochelys caretta, Australian notes, MACINNES **667**.—*T. caretta*, *T. colpo-*

chelys kempii, notes on fisheries, technique, etc., TRESSLER & LEMON **1133**.—*T. corticata*, outside structure of eye, MENNER **703**.

†*Toxochelys weeksi* sp. nov., Upper Cretaceous of Tennessee, J. Tenn. Acad. Sci. 26 4 1951 p. 266 fig., COLLINS, R. L. **223**.

Trionyx cartilagineus, hurum, of Thailand, SUVATTI **1087**.—*T. spiniferus*, pituitary, circulation and nerves, GREEN **409**.—*T. triunguis*, in Palestine, HAAS, G. **426**.—From Lake Rudolf, SCORTECCI **986**.

†THECODONTIA

Episcoposaurus haplocerus, Cope's types in Univ. of Texas, WILSON, J. A. **1198**.

†*Palaeoconus dumblianus* and *P. orthodon*, Phytosaurus teeth; Cope's types in Univ. of Texas, WILSON, J. A. **1198**.

Type of *Phytosaurus superciliosus* (Cope) in Univ. of Texas, WILSON, J. A. **1198**.

Relationships with *Protosuchus* discussed, COLBERT, E. H. & MOOK, C. C. **221**.

†THEROMORPHA

Dimetrodon gigashomogenes, *D. major*, *Casea*, *Edaphosaurus*, *Captorhinus*, *Diadectes* and *Labidosaurus* in Peruvian chronofauna, Texas, OLSON, E. C. **796**.

Skull of *Keratocephalus*, a Karoo Dinocephalian, BOONSTRA, L. D. **113**.—*Keratocephalus*, Remarks by von Huene, BOONSTRA, L. D. **114**.

Lystrosaurus. Genus reviewed and the 22 described species reduced to 11. The 3 Chinese species, 1 Indo-Chinese and 1 Indian descr. species regarded as distinct. *Prolystrosaurus* should be included in *Lystrosaurus*. *L. amphibius* sp. nov. descr. and figd., Trans. Roy. Soc. S. Africa 33 1 1951 p. 117, BRINK, A. S. **147**.

Mesosaurus brasiliensis, skull discussed and figd.; Mesosaurs an aquatic branch of the Pelycosauria, HUENE, F. F. VON **511**.

Rhadiodromus klimovi Efi. gen. nov., Trias, Donguz River, Tschvalovsk distr. Russia, C.R. Acad. Sci. Moscow N.S. 1951 77 p. 483 figs., EFREMOV, I. A. **297**.

†ICHNITES

Fossil footprints of ? reptilia from Navajo Sdst. (? L. Jurassic) of Colorado, FAUL, H. & ROBERTS, W. A. **322**.
—Fossil reptile footprints and Dragon legend, KIRCHNER, H. **563**.

Revision of Pennsylvanian and Permian footprints, *Limnopus*, *Allopus* and *Baropus*. Types re-examined and three form-genera now regarded as synonymous. New latex technique described for casting and comparing prints, BAIRD, D. **54**.

Orchesteropus atavus **gen. & sp. nov.**, E. Carboniferous of W. Argentina. Fore and hind prints descr. and figd., Rio. Asoc. Geol. Argentino **5** 3 1950 p. 136, FRENGUELLI, F. **359**.

Venatoripes riojanicus **gen. & sp. nov.**; Prints and track descr. and figd. from Permian of W. Argentina, Rio. Asoc. Geol. Argentino **5** 3 1950 p. 144, FRENGUELLI, J. **359**.

